

UNIVERSITY OF MICHIGAN
LIBRARIES
MAR 26 1951
ARCHITECTURE LIBRARY

ST
LEVAN

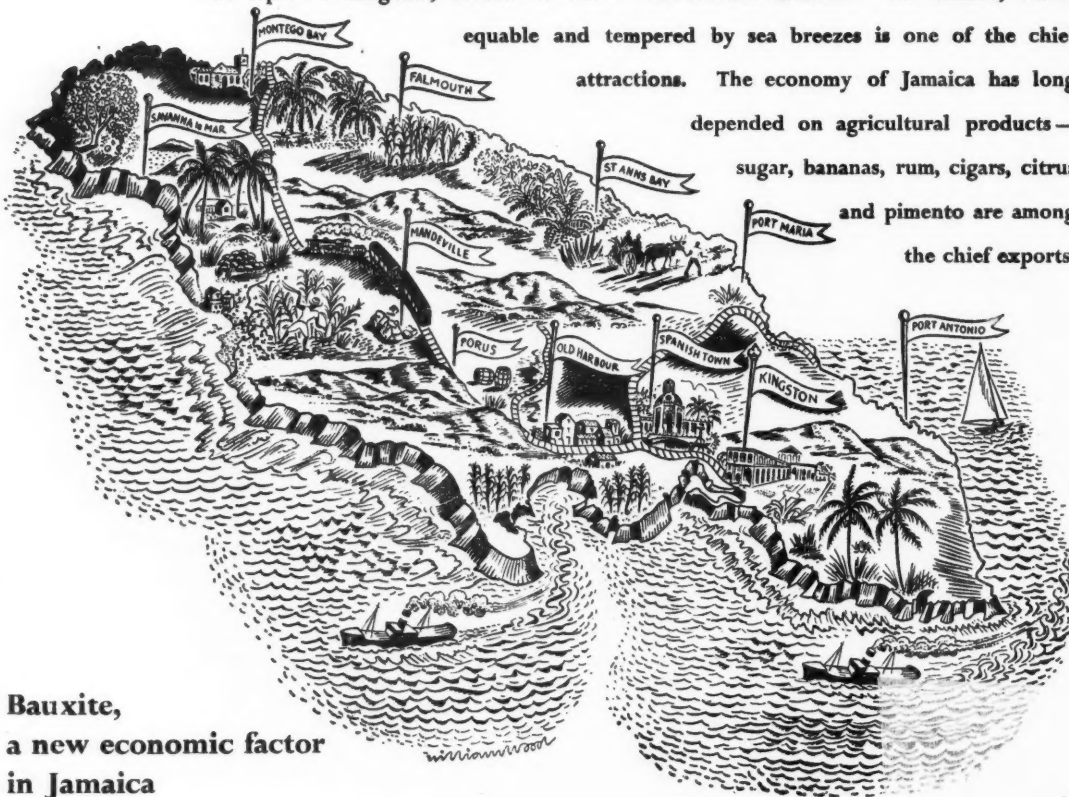


A Chapter in British Commonwealth Enterprise

Jamaica

The largest island in the British West Indies — was discovered by Columbus on May 3rd, 1494. Xaymaca, the Isle of Springs, was the native name of the Island, but the Spaniards renamed it Sant' Jago. The first Spanish Governor was appointed in 1509, and Jamaica remained under Spanish rule until captured by British admirals in 1655. The capital is Kingston, situated on one of the sixteen harbours. The climate, warm,

equable and tempered by sea breezes is one of the chief attractions. The economy of Jamaica has long depended on agricultural products — sugar, bananas, rum, cigars, citrus and pimento are among the chief exports.



Bauxite, a new economic factor in Jamaica

Bauxite, the basic material from which aluminium is extracted, exists in considerable quantities in Jamaica. Jamaica Bauxites Limited (an Aluminium Limited Company), has acquired property on the Island, and this Company, whose offices are at Mandeville, will mine the bauxite and convert the ore to alumina (aluminium oxide) in a plant now being installed. Aluminium Limited is thereby assisting the development of the economy of the Colony by creating a new industry as has been done elsewhere.

The need for aluminium increases as industry finds more and more uses for this versatile metal. Bauxite production must therefore keep step. The developments planned in Jamaica are

another example of the long-range planning on the part of the Aluminium Limited Group of Companies in the interests of British Commonwealth trade and industry.

ALUMINIUM UNION LIMITED.

Principal British Commonwealth Distributor of Aluminium
THE ADELPHI, STRAND, LONDON, W.C.2.
An ALUMINIUM LIMITED Company

Pa
numé
dém
sujet
manq
que
avan
cerna
S'il e
d'une
porai
moye
du jo
de cel
l'arch
analo
dans
archit
cultés
d'un
Lione
diffic
ment
En co
interv
destin
estim
même
d'art
hebd
public

Pa
H. M
styles
H. M
l'indu
fidélit
dans
produ
quatre
sisten
styles
excep
prédo
de fo
styles
ce qu
neutr
faisait
créati
jouer
sorte
l'enne
scandi
notab
Mouv
avant
essais
et de
progr
l'appli
meubl
rigour
Dunne
matér
fabric
élichés
intéres
aux n

Traductions Übersetzungen Переводы

THE ARCHITECTURAL REVIEW MARCH 1951

Mars 1951

Page 135: *Les Canons de la Critique*: 2. Dans le numéro de janvier de LA REVUE, Nikolaus Pevsner démontre comment les controverses publiques au sujet de l'architecture étaient entravées par le manque d'accord à l'égard de certains termes tels que 'le style' et 'l'harmonie'. Le présent article avance d'une nouvelle étape la discussion concernant le rapport entre l'architecture et le public. S'il est désirable que le public profane s'intéresse d'une façon intelligente à l'architecture contemporaine, il devient nécessaire de lui fournir les moyens de se renseigner au sujet de l'architecture du jour, ainsi que des aspirations et des problèmes de celle-ci. Il faut donc que la critique à l'égard de l'architecture contemporaine s'exerce d'une manière analogue à celle des livres et des peintures, paraissant dans les revues hebdomadaires. Une critique architecturale de ce genre serait hérissee de difficultés, nombre desquelles sont effleurées au cours d'un dialogue soutenu entre Berthold Lubetkin et Lionel Brett, et qui fait partie de cet article. Ces difficultés peuvent être surmontées, mais uniquement par l'exercice effectif d'une pareille critique. En conséquence, LA REVUE a l'intention de publier, à intervalles au cours de l'année, une série d'articles destinés à traiter les questions d'architecture et à estimer les valeurs architecturales à peu près de la même façon dont les critiques de littérature et d'art ont l'habitude de présenter dans les revues hebdomadaires leurs opinions à l'intention du public profane.

Page 150: *L'Ameublement depuis la Guerre*, par H. McG. Dunnett. En introduisant son aperçu des styles d'ameublement adoptés depuis la guerre, H. McG. Dunnett explique que dans le monde entier, l'industrie des meubles semble faire preuve d'une fidélité remarquable aux modèles stéréotypés; dans tous les pays, la partie prépondérante de la production est destinée au marché interne; environ quatre-vingts pour cent de cette production consistent d'imitations, soit exactes soit partielles, des styles de périodes passées, et, à part quelques exceptions, les fabriques d'importance modeste prédominent. Comme il est naturel, la guerre a eu de fortes répercussions sur la fabrication et les styles d'ameublement de tous les pays belligérants; ce qui est très curieux, c'est que la Suède, pays neutre, qui pendant des années avant la guerre faisait partie de l'avant-garde en ce qui concerne les créations contemporaines, a maintenant cessé de jouer un rôle important dans ce domaine—de sorte que le Danemark, occupé autrefois par l'ennemi, se trouve actuellement à la tête des pays scandinaves fabriquant des meubles d'intérêt notable. L'Italie et les Etats-Unis (pays où le Mouvement Moderne était pour ainsi dire inconnu avant la guerre) se lancent maintenant dans des essais des plus hardis dans l'utilisation de formes et de matériaux nouveaux; en Grande-Bretagne, le progrès s'est trouvé jusqu'ici très entravé par l'application de l'impôt sur les achats sur tous meubles ne se conformant pas à certaines directives rigoureuses, mais très souvent peu logiques. M. Dunnett passe ensuite en revue les techniques et matériaux divers employés à présent dans la fabrication des meubles, et son article est illustré de clichés montrant une sélection des meubles les plus intéressants de tous les pays, choisis par rapport aux nouvelles techniques et aux nouvelles con-

ceptions, le mobilier conçu en vue de la production en grande série étant spécialement considéré.

Page 175: *Oscar Wilde et son Architecte*, par H. Montgomery Hyde. En 1884, Oscar Wilde prit à bail la maison située au No. 16 (maintenant No. 33) Tite Street, à Londres, et entreprit la tâche de transformer l'intérieur de ce qui était au fond une simple maison Victorienne. Son architecte était E. W. Godwin, personnage remarquable, auquel vient d'être consacré une biographie—'La Pierre Consciente'—par M. Dudley Harbron, et qui était aussi l'architecte de Whistler. M. Montgomery Hyde décrit dans cet article les décors et le mobilier conçus par Godwin à l'intention de Wilde, et donne connaissance des lettres de Wilde à Godwin, non publiées jusqu'ici, ayant trait à l'ouvrage en question. Ces travaux furent l'objet de certains retards occasionnés par les activités dans le domaine théâtral de la part de Godwin, et donnèrent lieu à un litige entre Wilde et l'entrepreneur originaire qui ne fut réglé à l'amiable qu'à la toute dernière heure.

Page 181: *Architecture Moderne*. Ce numéro présente de nouveau une série d'articles, discontinués pendant la guerre, faisant brièvement la critique des plus récents bâtiments dignes d'intérêt.

AVIS AUX PERSONNES DESIRANT S'ABONNER À LA REVUE

Le papier n'étant plus rationné en Angleterre les abonnements à THE ARCHITECTURAL REVIEW peuvent être maintenant acceptés pour la France et autres pays étrangers.

Le prix d'abonnement, franco de port, est de £2.0.0 par an, payable d'avance, et les ordres d'abonnement peuvent être envoyés soit directement aux Editeurs, The Architectural Press, 9 Queen Anne's Gate, Londres, S.W.1, soit par l'intermédiaire des principaux dépositaires de journaux et agences d'abonnement français.

März 1951

Seite 135: *Kritische Richtschnur* 2. In der Januarnummer der REVIEW hat Nikolaus Pevsner darauf hingewiesen, welche Unklarheiten und Unwissenheit die öffentlichen Erörterungen architektonischer Streitfragen ergeben haben. Der vorliegende Aufsatz führt die Diskussion über Beziehungen zwischen Architektur und Publikum um einen Schritt weiter. Wenn die Laienwelt ein verständnisvolles Interesse an der Architektur unserer Zeit nehmen soll, so muss man ihr die Möglichkeit geben, sich über diese und über ihre Aufgaben und Probleme zu unterrichten; es muss Untersuchungen über die Baukunst unserer Zeit geben, die den Berichten über Malerei und Literatur in den wöchentlich erscheinenden Revuen entsprechen. Architekturkritik dieser Art starrt von Schwierigkeiten. Viele davon werden im Zwiegespräch zwischen Berthold Lubetkin und Lionel Brett im vorliegenden Aufsatz erwähnt. Diese Schwierigkeiten können nur behoben werden, wenn eine Kritik dieser Art tatsächlich geübt wird. Infolge dessen beabsichtigt die REVIEW im Laufe dieses Jahres eine Serie von Aufsätzen zu veröffentlichen, deren Zweck es ist, die Probleme der Architektur unserer Zeit zu erörtern und zu versuchen Richtlinien aufzustellen.

Seite 150: *Möbel seit dem Krieg* von H. McG. Dunnett. In diesem Bericht über Möbelementwürfe seit dem Krieg betont der Verfasser, dass die Möbelindustrie in der ganzen Welt eine überraschende Übereinstimmung in ihren Modellen zeigt. In jedem Lande ist der weitaus grösste Teil der Produktion für den einheimischen Markt bestimmt; etwa 80% der Produktion sind genaue oder freie Nachbildungen vergangener Stile. Kleine Betriebe sind die Regel, grosse Betriebe eine seltene Ausnahme. Der Krieg hat sich natürlich in der Möbelproduktion aller kriegführenden Länder aufs empfindlichste ausgewirkt. Ueber-raschend ist jedoch die Tatsache, dass das neutrale Schweden, das vor dem Krieg führend in Möbel-entwürfen war, aus dem Felde geschlagen wurde, und das sr. Zt. besetzte Dänemark jetzt in Bezug auf Möbelementwürfe unter den skandinavischen Ländern an erster Stelle steht. Italien und die Vereinigten Staaten, wo vor dem Krieg von modernem Stil kaum die Rede sein konnte, überbieten sich in den kühnsten Versuchen in Bezug auf neue Formen und neues Material. In Grossbritannien ist die Entwicklung durch die Einkaufsteuer auf Möbel gehemmt, da sie mit verschiedenen strengen, wenn auch oft unlogischen Bestimmungen nicht in Einklang gebracht werden kann. Der Verfasser untersucht die verschiedenen Techniken und Materialien die für die heutige Möbelproduktion charakteristisch sind. Er bringt Illustrationen aus den verschiedensten Ländern, die mit Rücksicht auf neue Techniken und Ideen gewählt wurden mit bewusster Betonung von Entwürfen, die für Produktion in grossem Massstab geplant sind.

Seite 175: *Oscar Wilde und sein Architekt* von H. Montgomery Hyde. Im Jahre 1884 hat Oscar Wilde einen Mietsvertrag für das Haus No. 16 (heute No. 33) Tite Street, London, abgeschlossen. Er ging sofort daran das Victorianische Innere des Hauses umzugestalten. Sein Architekt war der bekannte E. W. Godwin, der auch für Whistler gebaut hat. (Kürzlich hat Dudley Harbron eine Biographie Godwins unter dem Titel 'The Conscious Stone' veröffentlicht.) Montgomery Hyde beschreibt Dekorationen und Möbel, die Godwin für Wilde entworfen hat und veröffentlicht bisher unbekannte Briefe von Wilde an Godwin, die sich auf Haus und Einrichtung beziehen. Infolge von Godwins Verpflichtungen am Theater ging die Arbeit nur langsam von statten und ein Streit zwischen Wilde und dem ursprünglichen Unternehmer, der erst in zwölfter Stunde vor Gericht ausgetragen wurde, hat auch zur Verzögerung beigetragen.

Seite 181: *Neues Bauen*. Die REVIEW nimmt eine durch den Krieg unterbrochene Serie wieder auf und berichtet kurz über interessante neue Bauten.

FUER ZUKUENFTIGE ABONNENTEN

Da Papier in England nicht länger rationiert ist, können Abonnements auf die ARCHITECTURAL REVIEW vom Ausland angenommen werden.

Der Betrag für portofreie Zustellung ist £2 jährlich, zahlbar im voraus. Bestellungen erbeten beim

Ausland-Zeitungs-handel
We Saarbach,
Frankenstrasse 14,
Köln - Junkersdorf,

oder bei den führenden Zeitungs- und Abonnements Agenturen.

Март 1951 г.

КРАТКОЕ СОДЕРЖАНИЕ СТАТЕЙ

Стр. 135. **НАНОНЫ КРИТИКИ.** Вторая статья.

В январском выпуске нашего журнала Николай Певанер показал, как споры по вопросам архитектуры заходят в тупик из-за неумения согласиться относительно значения таких основных терминов как „стиль“ и „гармония“. В настоящей статье обсуждение взаимоотношений между архитектурой и публикой проводится несколько дальше. Для того, чтобы непосвященная публика могла проявить серьезный интерес и отнестись с надлежащим пониманием к современной архитектуре, она должна быть осведомлена относительно целей современной архитектуры и стоящих перед ней задач, а для этого она должна иметь в своем распоряжении критические обозрения современной архитектуры наподобие обозрений современной литературы и живописи в английских еженедельниках. Такого рода архитектурная критика представляет много трудностей, значительная часть которых затронута в разговоре между Бертольдом Любеткиным и Леоном Бреттом, составляющем часть настоящей статьи. Трудности эти однако преодолимы, и единственный путь их преодоления — это практика такого критического обозрения. Ввиду этого, в нашем журнале будет в этом году напечатан ряд статей, целью которых будет представлять вопросы архитектуры и оценивать архитектурные ценности на подобие того, как критика литературы и искусства излагают непосвященной публике свои взгляды в еженедельных обозрениях.

Стр. 150. **Х. МАН-ГРЕГОР ДАННЕТ. МЕБЕЛЬ ПОСЛЕВОЕННОГО ПЕРИОДА.**

Прежде чем приступить к прямой теме своей статьи, автор показывает, что, вообще говоря, по всему миру мебельная промышленность отличается

изумительной приверженностью к привычным образцам. Во всех странах куда большая часть всего производства мебели идет на внутренний рынок, и вся эта мебель воспроизводит либо целиком, либо почти целиком, стили тех или иных эпох. За небольшими исключениями производство ведется предприятиями небольшого размера. Как и следовало ожидать, война чрезвычайно сильно отразилась как на производстве мебели, так и на ее рисунке, во всех странах, принимавших в ней участие. Однако всего любопытнее то, что нейтральная Швеция, много лет стоявшая впереди новых направлений в развитии стиля мебели, теперь как бы совершенно выбыла из строя в этой области, в то время как Дания, которая была оккупирована во время войны, стоит теперь во главе скандинавских стран по оригинальности стили и качеству исполнения своей мебели. Италия и Соединенные Штаты Северной Америки, где до войны модернистское направление в стиле мебели оставалось почти что неизвестным, производят теперь самые смелые опыты в использовании новых форм и материалов. В Англии движение вперед в этой области пока что задерживается тем, что особый налог на покупки (введенный во время войны и по сию пору продолжающийся) жестко применяется ко всякой мебели, которая не подпадает под строгую, и при этом весьма часто нелогичную, правительственную спецификацию. Автор переходит после этого к рассмотрению разнообразной техники и материалов, применяемых в настоящее время в мебельном производстве, иллюстрируя это рядом наиболее замечательных образцов мебели во всех странах, так подобранных, чтобы обратить особое внимание на новую технику и на новые идеи и специально выделить мебель, спроектированную для производства большого масштаба.

Стр. 175. **Н. МОНТГОМЕРИ ХАЙД. ОСКАР УАЛЬД И ЕГО АРХИТЕКТОР.**

В 1884 г. Оскар Уальд снял дом № 16 по улице

Тито и принялся за внутреннюю перестройку этого, по существу говоря, ничем не замечательного дома, типичного для периода царствования королевы Виктории. У него был тот же самый архитектор, который работал для знаменитого английского художника Уистлера, по фамилии Е. В. Годвин. Это была замечательная личность; биография его отведена почетное место в недавно появившейся книге Дадли Харброн'a „Одухотворенный Камень“. Автор настоящей статьи описывает внутреннюю отделку и мебель, которые Годвин спроектировал для Оскара Уальда, приводя неопубликованную до сих пор переписку по поводу этой работы между известным архитектором и его знаменитым клиентом. Работа эта не была исполнена в срок из-за того, что архитектор был занят в театре. Дело осложнялось еще тем, что у клиента был судебный процесс с первоначальным его подрядчиком, и обе стороны пришли к мировому соглашению только перед самым судебным разбирательством.

Стр. 181. **ТЕКУЩАЯ АРХИТЕКТУРА.**

Отдел этот, приостановленный с начала войны, вновь восстанавливается в нашем журнале, начиная с настоящего выпуска. В нем будут кратко отмечаться новые интересные постройки.

ОБЪЯВЛЕНИЕ ПОДПИСЧИКАМ

Ввиду того, что в Англии организации бумаги больше не существует, „АРХИТЕКТУРАЛ РЕВЬЮ“ восстановил прем подписки для СССР и других зарубежных стран.

ПОДПИСНАЯ ПЛАТА 2 стерлинга в год
(плата вносится вперед)

Подписка принимается по адресу:

**МОСКВА, Международная Книга
Кузнецкий Мост, 18**

и во всех газетных агентствах.

THE ARCHITECTURAL REVIEW

Volume 109 Number 651 March 1951



The Cover shows a Cornish direction stone from whose legibility, economical presentation of the necessary information, and perfect adjustment of lettering to background the contemporary designer of road signs can still learn, while in addition it possesses that quality of style which alone can raise such everyday objects to the status of works of art. In a note on page 189 it is pointed out, with further illustrations, that there are many signs of this class, more or less undatable but equally undating, up and down the country. What is needed, it is suggested, is a new highway code incorporating the lessons to be learned from them, and not forgetting the claims of locality in resisting any attempt to impose absolute uniformity where it is not really necessary.

134 Frontispiece

135 **Canons of Criticism: 2** In the January REVIEW Nikolaus Pevsner showed how public controversy about architecture was stultified by failure to agree about the meaning of such terms as 'style' and 'harmony.' The present article carries the discussion of the relationship between architecture and the public a stage further. If the lay public is to take an intelligent interest in contemporary architecture it must be provided with some means of informing itself about it and about its aims and its problems: there must, in fact, be criticism of contemporary architecture analogous to the criticism of books and paintings that appears in the weekly reviews. Architectural criticism of this kind bristles with difficulties, many of which are touched on in the dialogue between Berthold Lubetkin and Lionel Brett, which forms part of the present article. But these can be overcome, and can only be overcome, in the actual practice of such criticism. Accordingly the REVIEW plans to publish in future regular articles designed to present architectural issues and apprehend architectural values in the kind of way that the literary and art critics of the weeklies habitually offer their opinions to the lay public.

138 **Flats in Rosebery Avenue, Finsbury Architects: Tecton; Executive Architects: Lubetkin and Skinner**

J. M. Richards
Nikolaus Pevsner
Editors Ian McCallum
Osbert Lancaster
H. de C. Hastings

Assistant

Editors: production, G. Bensusan.
art, Gordon Cullen. research, S.
Lang. literary, Marcus Whiffen.
Editorial Secretary, Whitehall 0611-19

151 Furniture Since the War by H. McG.

Dunnett Introducing his survey of furniture design since the war, H. McG. Dunnett points out that throughout the world the furniture industry shows a remarkable conformity to pattern; in every country by far the greater part of the total output is destined for the home market, some eighty per cent of that output everywhere consists of reproductions or near-reproductions of 'period' types, and small manufacturing concerns are the rule to which there are few exceptions. The war naturally had tremendous repercussions on furniture manufacture and design in all combatant countries; what is most curious is the fact that neutral Sweden, who for years before it was a leader in contemporary design, has dropped out of the running in this particular sphere—so that once occupied Denmark now heads the list of Scandinavian countries making notable furniture. Italy and the United States (where before the war the Modern Movement was virtually unknown) are now producing the boldest experiments in the use of new forms and materials; in Britain advance has so far been inhibited by the application of purchase tax to furniture which does not conform to certain strict—though frequently illogical—regulations. Mr. Dunnett goes on to consider the various techniques and materials now used for furniture making, and his article is illustrated with a selection of the most interesting pieces of furniture from all countries, chosen with an eye on new techniques and ideas and special emphasis on furniture designed for large scale production.

167 Buildings in Northern Rhodesia Architect: G. A. Jellicoe

175 **Oscar Wilde and his Architect by H. Montgomery Hyde** In 1884 Oscar Wilde took the lease of No. 16 (now 33) Tite Street and set about transforming the interior of what basically was an ordinary Victorian house. His architect was that remarkable character E. W. Godwin (recently accorded a biography, *The Conscious Stone* by Dudley Harbron), who was also Whistler's architect. In this article Mr. Montgomery Hyde describes the decorations and furniture which Godwin designed for Wilde and prints hitherto unpublished letters from Wilde to Godwin relating to the work, which was subject to delays on account of Godwin's theatrical commitments and was accompanied by a dispute between Wilde and the original contractor, settled out of court at the eleventh hour.

177 Preview: Lansbury Neighbourhood, Poplar

181 **Current Architecture** This number re-introduces a feature, discontinued with the war, briefly recording new buildings of interest.

Miscellany

185 Time

185 Indoor Plants

185 History

189 Highway Code

191 Books

193 Anthology

193 Marginalia

194 Intelligence

194 Exhibitions

195 Correspondence

200 Contractors etc.

202 Acknowledgments

The Authors G. A. JELlicoe, architect, born 1900, AA School 1919-23. In partnership with J. C. Shepherd until 1930, engaged on gardens and domestic work; afterwards in independent practice. Work included Calverton Colliery buildings in collaboration with Miners' Welfare Society. Principal, AA School 1939-41. Consultant, Ministry of Works 1942. Has since prepared landscape and town plans for Wolverton (Bucks), Guildford and Wellington (Shropshire). Appointed designer for New Town of Hemel Hempstead, 1947. Appointed consulting architect to Government of Northern Rhodesia 1947. At present engaged on housing at Live Architecture Exhibition, Poplar, for 1951 Festival. President, International Federation of Landscape Architects. T. S. R. BOASE, President of Magdalen College, Oxford. Born 1898. Fellow, Hertford College, Oxford, 1922-37. Director, British Council in the Middle East, 1943-45. Professor of History of Art, London University and Director of Courtauld Institute of Art 1947. Publications include *Boniface VIII*, 1933, *St. Francis of Assisi*, 1936. R. F. AICKMAN. Received some training as an architect. Formerly Dramatic Critic to *The Nineteenth Century and After*; Film Critic to *The Jewish Monthly*. Director of London Opera Society Ltd. Committee Member of London Opera Club. Originator of The Inland Waterways Association, and Chairman since foundation. Council Member of Lower Avon Navigation Trust. Responsible for general direction of Market Harborough Festival, 1950, of boats and arts. PAUL ROTH, film producer, born 1907. Attended Slade School of Art, and was Art Critic, *Connoisseur*, 1927-28. Specialist in production of documentary films. Has made films for Empire Marketing Board, Imperial Airways, Gas and Electricity industries. Publications include: *The Film Till Now*, 1930; *Celluloid: The Film Today*, 1931; *Documentary Film*, 1935; *Movie Parade*, 1936.

SUBSCRIPTION RATE: The annual post free subscription rate, payable in advance, is £2 sterling, in USA and Canada \$6.50. An index is issued half-yearly and is published as a supplement to the REVIEW.

THE ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate, Westminster, SW1 Whitehall 0611

THREE SHILLINGS AND SIXPENCE



The seven hundredth anniversary of the death of the Emperor Frederick II of Hohenstauffen has just been celebrated. He was the builder of the remarkable series of castles in the southern Italian province of Apulia which are the subject of an article in this issue. One of the most spectacular of these is Gioia del Colle (the jewel of the hill), aptly named for its finely wrought architecture and its situation on the crown of one of the rolling hills of Apulia. Probably Norman in origin, it

was reconstructed and embellished by Frederick; his crest, the Hohenstauffen eagle, adorns the great hall. Under Frederick it became more a pleasure house than a fortress. His body is said to have lain in state at Gioia del Colle on his last journey from Castel Fiorentino, where he died, to Taranto, whence he was taken by ship to Palermo where he is buried. The photograph shows the bold geometry of the fireplace and staircase on the first floor. These were among Frederick's own additions.

CANONS OF CRITICISM: 2

The month before last Professor Pevsner analysed some recent correspondence in *The Times* about the style of the new Coventry cathedral, and drew from it the conclusion that although public controversy about architecture is desirable, it is prevented from serving a very useful purpose by an absence of agreement as to the meaning of the terms used. He cited such terms as 'style' and such desiderata as 'continuity and harmony between a building and its neighbours' as being used in so many different senses that arguments employing them could only add to the existing confusion about architectural values.

If there is confusion, even on the part of the intelligent public, about what to look for in the architecture of the past and how it is related to present-day problems, there is even greater confusion about contemporary architecture. The public has but little idea of the modern architect's aims and objects or the criteria by which his success in reaching them may be judged. Once more the difficulty begins with a failure to agree about terminology. Professor Pevsner, linking the needs of the past and the present, concluded his article by saying that architectural critics must make the effort to 'apply to buildings of today what instruments have been shaped and sharpened to deal with buildings of the past'.

The buildings of today could certainly do with criticism—not necessarily in the sense of fault-finding, but in the sense of discussion and analysis, with the object of interpreting architecture intelligibly and constructively to the lay public. Some of the traditional instruments of criticism can be reapplied; others may have to be fashioned anew. Together they must provide a foundation for that canon of criticism without which the public is in no position to encourage a high standard of architecture by taking an intelligent interest in its problems.

If there is agreement that regular criticism of current architecture is needed, the question that remains is what form should it take? Two architects who have always taken a special interest in the relationship between architecture and its public, Berthold Lubetkin* and Lionel Brett†, recently met, at the invitation of the REVIEW, to discuss this question. The following is a record of their conversation, and thus of their views about the terms of reference by which the critic should be guided.

Brett: Shall we start from a letter I wrote to the Editor of the REVIEW in the middle of the war? I had been wondering why intelligent laymen who appreciate modern painting and music don't for some reason like modern architecture. I suggested that one explanation might be that whereas painters and composers have their work reviewed and criticized in language which is intelligible to outsiders, there is no regular criticism of modern architecture. I begged the Editor to start the ball rolling by making the post-war REVIEW a review.

Lubetkin: Good idea. There may be other reasons for the layman's low opinion of modern English architecture. But go on.

Brett: The trouble is that while it is easy to see that there ought to be criticism of architecture, as soon as you begin to think about how it should be done the whole thing bristles with difficulties. To begin with, there is the complexity of modern buildings. It would be like reviewing a battleship.

Lubetkin: It could be done if it were done seriously. No jotting down of subjective impressions after a quick walk round the building and calling that criticism. You would have to analyse the social content of the work. There can be no artistic creation which does not reflect social ideology. Even artists who profess to be concerned solely with form are in fact expressing a very tangible ideology. You would have to follow the project from its ancestry to its conception, watch its pre-natal changes, attend at its birth, and visit it with the architect during its growth to maturity. He would show you his aims, his research, his handicaps, his experiments and his mistakes. It would be a job.

* Founder and leading member of architectural firm of Tecton (1931-49); at present in partnership with Bailey and Skinner. Designer of many pioneer modern buildings including buildings for London and Whipsnade zoos, Highpoint flats and Finsbury health centre. Author of the master plan for the new town of Peterlee. His Rosebery Avenue flats for Finsbury are illustrated in this issue, and he contributes a foreword defining the aesthetic philosophy on which the design is based.

† Architect, writer and broadcaster. Architect-planner of Hatfield new town.

Brett: It would. At the end I should be so attached to the child that I would be as uncritical as a favourite uncle. I'm inclined to think that just as superficial criticism of finished buildings is sometimes unfair to the designer, so this dogging of the architect's footsteps might turn the critic into a yes-man. Anyhow, would either party have time for it?

Lubetkin: Nothing less would have very much value.

Brett: I must confess that my objective was a rather simpler one. I merely wanted to see our architecture criticized as briefly, effectively and regularly as books are reviewed in *The New Statesman* or *The Spectator*.

Lubetkin: And that is just what we can't do. Criticism, you see, raises the whole question of standards. Your book reviewer has to answer one simple question: Is this book worth getting out of the library? And by what standards does he give his answer? Why, the normal standards of the modern English novel, a stock product if ever there was one. But reviewing a great modern building you would have to answer this question: Is this building or is it not, a contribution to modern architecture, and through it to social progress? And think of all the questions that raises. What is modern architecture? Does it exist like the classic tradition? Is the revolution over, or still in progress? Has the time come to consolidate, or advance?

Brett: You probably over-simplify the literary critic's problem. He must surely have the same sort of questions at the back of his mind. But I'm afraid you're right. Before I can collect, as I dream of doing, my team of architectural reviewers, we have got to find some standards for them to review by. And I suppose it follows that until we have passed those standards on to their public, no one will understand what they are talking about.

Lubetkin: Exactly. What is wanted is first to define, and then to popularize, an aesthetic code of practice.

Brett: A new Vitruvius. A tall order.

Lubetkin: At the moment, yes. If we could be aware of our lack of it, it would be something. When Vitruvius was liquidated I don't suppose the tyrannicides realized for a moment that they would have to find a successor; i.e., that if you abolish law, human beings don't behave beautifully by instinct. They just moon about doing nothing in particular.

Brett: Can you suggest a first step?

Lubetkin: I would say that the first step is for the architect to have a reason for everything he does; reason is the product of the struggle of the new against the old, and at the same time is also a weapon. You know as well as I do how much of a building just *happens*. Take this little room we are in. The door is about eighteen inches from the end of the wall. Why? Too much for the architrave, not enough to accommodate a bit of furniture. Did the architect draw that wall in elevation and see where that door looked best in it? Of course not. His T-square probably found itself in that position while he was on the eighth-scale plan and (the plans being late anyway) the door is in that meaningless position for ever. The first thing is to be deliberate.

Brett: Go on.

Lubetkin: I was going to add that this isn't all aesthetic preciousness. You could equally call it precision or professional discipline—being conscious of the proud traditions of the *métier*. I remember the fuss old Perret used to make if one of us showed up a detail that wasn't fully realized. 'But those wall tiles would have to be cut—four of them; think of the time wasted. Take it away, monsieur, I will have no cutting of tiles.' Ever since then I have been able to take no pleasure in a building that wasn't first of all a lovely bit of precision engineering—in design from which the haphazard is not exorcised.

Brett: Unfortunately, precision is not a virtue the English admire. Character and atmosphere are the sort of words they use in praise, and the more indefinable a building's attributes, the more they like it. Of the two recognized ways of seeing, the classical tradition of formal discipline and the romantic vision of the building as sculpture, they keep veering back towards the romantic. It's the climate, of course.

Lubetkin: But remember we don't sculpt our architecture these days. We design and assemble it.

Brett: Yes, remembering that, I still don't see your logical determinism in everything you do. Look at this model of the Rosebery Avenue flats. You have deliberately, and presumably with difficulty, disguised their box-frame construction. And can you tell me why this table at which we sit is pale blue?

Lubetkin: Well, you answered the first question yourself when you used the word 'deliberately.' I can't believe you really mean to wave the lamp of Truth in my eyes. We made the decision not to display the frame on the side elevations and we built up a consistent pattern on that decision. As for this table, that was deliberate too, though I admit that one's use of colour nowadays is unadventurous and one tends to confine oneself to a few clichés until one can stand them no longer and has to think up a new set.

Brett: We really agree. I am interested in the subjective element in the 'decision' you make, but we agree that the vital thing is the decision, and the fatal sin, indecision, slap-happiness and the general tendency to let things happen and invent reasons afterwards if necessary.

Lubetkin: Mind you, the 'romantic' way of letting things happen is often the way to make money. I saw somebody's drawings for some blocks of flats the other day. Twelve drawings, nearly all eighth-scale. Six weeks' work of two men. Cost to the architect, say, £300. Fees presumably £3,000. At the other extreme it is almost impossible for a modern architect, doing a precision job with the object of

producing a work of architecture and saving his client's money, to avoid bankruptcy on the present RIBA scale for housing. But that's by the way.

Brett: I think it is just possible that by being too deliberate one might pare away those pointless but splendid spaces that made life in Vitruvius's day so exhilarating.

Lubetkin: We must not and will not. We will give point to the apparently pointless, while splendour will be our reward if we find inspiration in the struggles of the progressive forces in society.

Brett: And now back to my criticism. Obviously we can't write a new Vitruvius yet, but we can try to establish one or two simple rules for critics, on the principle that in an imperfect world, goodness and badness are relative, and that the fundamental question is 'relative to what?'

Lubetkin: In other words, that judge and jury are wasting their time if there is no such thing as crime.

Brett: We are even agreed on the first and worst crime.

Lubetkin: Yes, the crime of indifference.

Brett: I take it then that the first question the critic of architecture must ask himself is this. Is this building serious?

Lubetkin: I would even say that unless it is serious in the sense of our discussion it is hardly worth reviewing.

Brett: And I suppose his second question must be this. Where does this building fit in? Is it in advance, in retreat or just dug in waiting for something to happen.

Lubetkin: Yes, that must be asked. But it will not always be easy to answer it. How can you tell the difference between advance and retreat when you are so hazy about your social and aesthetic objectives?

Brett: Oh, I can't define the direction, but I know an advance when I see one.

Lubetkin: How English!

Brett: May I now go back to the beginning, when we were discussing the complexity of modern buildings, and say just this. Criticism will never escape from the pages of the technical press unless critics can learn to write simply about architecture as an art—given a column in a Sunday paper and no space for diagrams and analyses.

Lubetkin: You remember Pevsner's description in his *European Architecture* of the staircase at Bruchsal. There is a complicated structure for you, described as a work of art.

Brett: Exactly. The building need not be illustrated. It can no longer even be seen. But it can be an enchanting vision in the mind's eye.

Lubetkin: To describe clearly, and to assess fairly. To be brief and to be vivid. Do you think we have the writers?

Brett: That remains to be seen.

One point that comes clearly out of this conversation is that criticism cannot play the important part allocated to it if it appears only in the technical press; indeed, without the basis of regular discussion of architecture in the lay press, it is difficult for criticism in the technical press to perform even its limited role. For example, if architects are not accustomed to having their buildings discussed in public, each attempt to do so becomes invidious and takes on the character of an unprovoked attack. Criticism cannot thrive in the atmosphere of hostility thus engendered.

It may or may not be architecture's fault that nowadays it is almost totally ignored in the lay press. The problem is how to break through the vicious circle whereby architecture is not considered by editors to have any interest for the public, and the public cannot acquire that interest because the subject is never discussed in the papers it reads. THE ARCHITECTURAL REVIEW is too specialized a journal to fill this gap adequately, but it can experiment with the kind of architectural criticism that, in the view of its editors, the lay press ought to provide, in the hope that a demand may be stimulated to which at least the more intelligent lay papers may respond. This kind of criticism must include, of course, discussion of buildings in the category Mr. Lubetkin defines as non-serious as well as a profounder analysis of buildings that make a real contribution to the advancement of architecture. To the man in the street the 'non-serious' buildings are just as much part of the scenery in which we are asking him to take an intelligent interest; their very variety of form and purpose is largely responsible for the confusion that has led him and the newspapers that cater for him to give up the discussion of architecture in despair.

All architecture is thus grist to the critic's mill. At intervals during this year, the REVIEW will publish articles, under the heading of 'Criticism', designed to present architectural issues and apprehend architectural values in the same kind of way—that is, with the limited degree of technical complexity—that the literary, dramatic and art critics habitually offer their opinions to the lay public about their respective arts. The first article will appear next month.

FLATS IN ROSEBERY AVENUE, FINSBURY

TEOTON, ARCHITECTS : LUBETKIN AND SKINNER, EXECUTIVE ARCHITECTS

One of the points made by Mr. Lubetkin in his conversation with Lionel Brett about criticism, which is incorporated in the preceding article, is that it is not enough for the critic to appraise a building, as it were, from the outside; he must familiarize himself also with the process by which the building acquired its visible form, especially the aims by which the architect concerned was guided. The absence of agreed aims and principles is, it is generally realized, one of the factors that inhibit proper understanding of contemporary architecture and hinder the establishment of a canon of criticism. In the case of the building illustrated on the following pages, designed by the partnership of which Mr. Lubetkin was the leading member, the architects were invited to supply this want by introducing the description of the finished building with a statement of the principles and ideals they followed when designing it. The Rosebery Avenue flats particularly repay analysis of this kind because they represent but one stage in a process of working out a certain philosophy of exterior design which can only properly be understood in relation to previous and subsequent designs by the same architects. The reader is referred to these in the article.

In 1937 Finsbury Borough Council decided to demolish certain slum property bordering on a narrow public garden known as Spa Green, on the east side of Rosebery Avenue, and to commission a design for flats. The site is one of some prominence, lying near the town hall, the headquarters of the Metropolitan Water Board, and the Sadler's Wells Theatre. It also has very interesting historical associations.

When the houses on the site were demolished, there came to light, in one of the cellars, an eighteenth century grotto decorated with oyster shells; it was from this that the chalybeate spring flowed, from which the pleasure gardens that stood on the site from the seventeenth century onwards took much of their popularity. With varying fortune, depending now on the almost fabulous medicinal properties claimed for the waters, now on the coffee houses, the dancing and the sports they afforded, the gardens carried on for more than a century, attracting at times a more exclusive element from nearby London, at times a more plebeian public. It was from this spring, too, that the site took its old name of Islington Spa, or the New Tunbridge Wells, a trace of its origin surviving in the name of Spa Green.

The scheme originally prepared for the site had a number of unconventional technical features, and long negotiations with various authorities thus ensued before approval could be obtained. When at last this was forthcoming, it was too late: building activity throughout the country was stopped on the outbreak of war, and the scheme was shelved. When, in 1945, it became possible once more to think in terms of new building and local authorities began to face post-war problems, it soon became clear that, as in so many other spheres, the pre-war solution had lost its validity. For many reasons it was decided to redesign the scheme fundamentally.

To start with, the physical limits of the site had been considerably altered by bombing—several houses, which the Council had been unable to acquire for demolition before the war, having been destroyed, thus increasing the area for building. Moreover the County of London Plan had appeared, laying down certain town planning solutions for this area. New road junctions and traffic roads were destined to bring arterial traffic through this part of Finsbury, St. John Street was to be transformed at some future date from a road of local importance to a main traffic artery.

These considerations could not but influence the design of the scheme. But there were others, much more tenuous, but of no less importance in their influence. It is a commonplace that architecture cannot help reflecting the conditions, economic and social, of the time, both in the programme and in the formal solution. But in 1945, when bombs were still falling on London, it was well-nigh impossible to foresee what these conditions would be. The country's economic future was unknown, and while there was a strong and naturally optimistic feeling that after victory nothing could be too good, no

Islington Spa, site of the Rosebery Avenue flats illustrated herewith, in 1733.



The Charms of Dishabille, or New Tunbridge Wells at Islington.

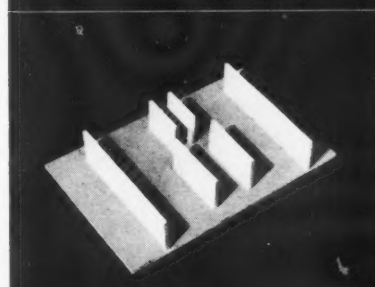
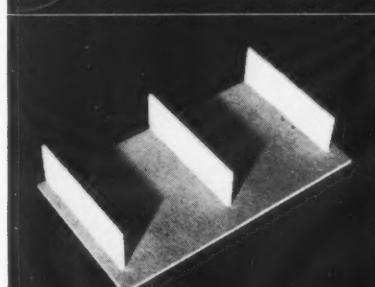
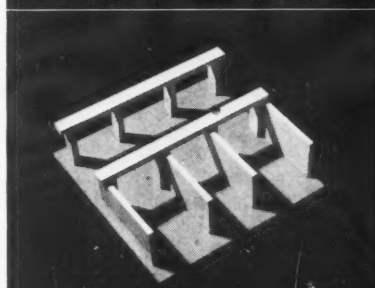
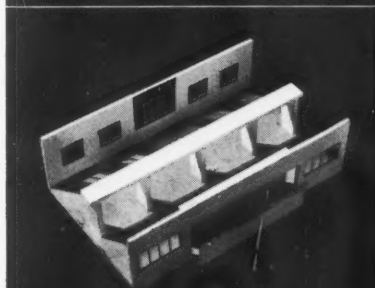
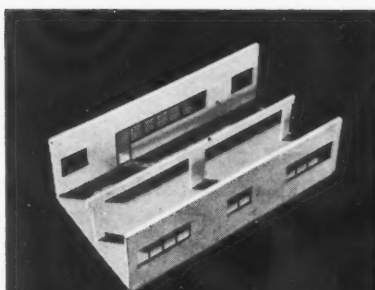
standards too high, there was also an inescapable foreboding as to the effects which must be exerted by the long economic strain of the war. The war had left the building industry in a condition of crisis, tumbling from one shortage to another. We were exhorted at one time to save bricks, at another to save steel by building in brick instead of concrete. Lack of pipes, timber and so on became chronic. As for labour, the great shortage and instability of manpower, and the catastrophic drop in output, threatened to make all but the most primitive forms of building impossibly slow and expensive.

There was thus a choice between, on the one hand acquiescing for the sake of expediency in a lowering of standards, and on the other hand placing one's trust in the vast technical progress made during the war years, in the hope that mechanisation, new techniques and enthusiasm could be relied on to make up the deficiencies.

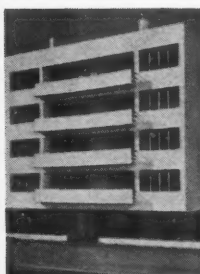
The people's attitude to the housing problem had been made quite clear: there was enormous pressure for an immediate and comprehensive housing programme. At the same time the local authorities realised that they, as guardians of the standards which had been painfully built up over many years, were in the invidious position of having to choose between quantity and quality. So long as there was still room for any doubt on the subject, so long as an optimistic mood could still be maintained, it was plainly the duty of the architect to aim at a high standard, not only of space, equipment and finish, but also of design. It was in this optimistic mood (only partially justified by subsequent events) that the Rosebery Avenue scheme was designed. Both its general character and the details of structure and equipment inevitably reflect this fact.

During the past twenty years or so several trends have been discernible in architecture, reflecting faithfully the many-sided structure of our society. After the early, militant and heroic period of modern architecture, with its positive approach to structure and form, functionalist and purely mechanistic tendencies emerged, discounting from the equation the human being in his individual and social aspects, and allowing him merely a biological status. It is clear that this state of affairs could not fail to bring a reaction, which indeed soon appeared in the guise of romantic tendencies, and preoccupation with the particular, with details, with materials as such, and the flight from objectivity.

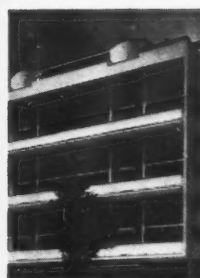
The small bourgeois, unable and unwilling to explain the complexities of the modern world, escapes from pressing realities into a world of *gemütlichkeit*, suburban timidity and a conformist modesty which is but a cloak for lack of civic valour. It would be wrong, however, in judging the dynamic of our time, to be misled by these symptoms of lack of cohesion, social decay and threatening destruction. On the contrary, side by side with them, and at every step, there are achievements in all fields of human endeavour which foreshadow a rich, peaceful and happy future for the whole of mankind. Clarity of form, structural purity and optimistic confidence in the future spring from this side of our civilisation; instead of an apology, a challenge; instead of despair, convictions; instead of whims, reason. "Reason finds fertile ground, and accordingly flourishes,



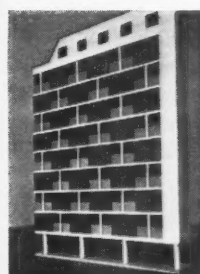
Highpoint I, 1934: external carrying walls.



Cement Marketing Co. competition, 1936: external carrying walls with recessed balcony.



Highpoint II, 1937-8 (centre portion): transverse carrying walls.



Paddington, 1946: transverse carrying walls; no stanchions. Holford Square, 1950 (still under construction) is similar.



Busaco Street, Finsbury, 1947 (still under construction): transverse walls; plan variation. The Rosebery Avenue scheme, here illustrated, is of similar construction.

in every civilised country undergoing a period of development in which the social structure tends to decay, and representatives of new social trends subject the old ones to their criticism."*

It is in this spirit that Rosebery Avenue claims to
* Plehanov, 'French Drama and Painting in the 18th century'.

reflect the tendencies of our time. For too long modern architectural solutions were regarded in terms of abstract principles, with formal expression left to itself as a functional resultant. The principles of composition, the emotional impact of the visual, were brushed aside as irrelevant. Yet this is the very material with which the architect operates; it is in this sphere that he is the sole master, by virtue of his training and tradition. In the Rosebery Avenue scheme the attempt is made to combine uncompromising clarity of plan, articulation of volumes, and causal interrelation between structure and design, but without, however, allowing these to become the whole aim. Solicitude for the human being, the reflection of human scale, in the modelling of the whole composition and in the treatment of details, enter as formative factors of equal importance.

Too often in contemporary buildings of this kind the elevational proportions, with their repetitive rhythm of openings, seem to form part of a continuous band of indeterminate limits, which could be snipped off by the yard at any point. It was our endeavour to devise a design which, instead of relying solely on the interplay of the main volumes irrespective of their treatment, would take the basic rhythm proceeding from the plan, and further develop this rhythm in an overall pattern of light and shade, bringing human scale to the main abstract forms. We have already stressed the importance of the integrated relationship between planning, structure and expression in modern architecture. In the light of this it is hardly necessary to repeat that such attempts at elevational treatment have nothing in common with mere surface pattern-making.

Our approach to this problem has been the subject of constant scrutiny and revision over a long period, in which Rosebery Avenue does not represent a final stage. In later schemes, now under construction, the basic principles are further developed and modified. In order to clarify the line of thought it may be helpful to trace this evolution through a number of works executed by us in the past, noting how the gradual development of building technique has made it possible, by freeing the elevations of their structural burden, to introduce a richer, three-dimensional treatment, combined with the use of different materials and colours.

In 1934, in designing Highpoint I, we introduced external carrying walls of reinforced concrete. This form of construction, made economical by the use of continuous climbing shuttering, severely limited the possibilities for architectural treatment and for the introduction of richness in detail. It was realised that the effect of solid walls pierced by openings would not give any opportunity for the full play of light and shade, and we were reduced to the use of strips of projecting balconies as a means of obtaining a three-dimensional effect. However, in the London climate, with its absence of light contrasts, such a treatment in itself would not have been sufficiently plastic, and in the case of Highpoint I it is relieved by the composition of the main wings, the advancing and retreating planes of the blocks helping to introduce a spatial relationship in which the individual elevations have only a secondary rôle.

However, we were deeply aware of the fact that this solution lacked scale and eliminated the richness of

treatment so necessary in our climatic conditions. In the next scheme, designed in 1936 for the Cement Marketing Company's competition, a balcony treatment was made use of to obtain a certain amount of elevational relief, in conjunction with carrying external walls, by both projecting the balcony and recessing the front wall behind it. It is also worth noting that, in contrast to Highpoint I, the central structural spine, instead of consisting of ordinary columns and beams, introduced tentatively the idea of load-bearing strip walls as a modification of the rectangular stanchion. The beams supported by these stanchions cease to be beams in the ordinary sense, becoming part of the slab, just as the stanchions themselves are transformed into walls.

In Highpoint II, which followed in 1937-8, while the two wings were treated in a similar way to the adjoining block, Highpoint I, in order to preserve unity, the central portion introduced, in contrast, a different system of construction, in which the load-bearing walls were transversal, sharing the load with a certain number of columns. This method largely frees the elevation from its carrying function and permits a richer treatment by introducing a variety of materials and of elevational relief.

In the Rosebery Avenue scheme this evolution is carried one stage further. Here an uncompromising system of concrete cross-walls is used, based on a method of construction developed in Denmark during the war, and brought to this country by Mr. Ove Arup. This was made economically possible mainly by the introduction of special shuttering which ensures that the amount of skill required can be kept to a minimum. The advantages of this system, apart from economy, are of course very great. It eliminates all projecting stanchions and beams internally, allowing all the rooms to be cleanly designed, while also giving complete freedom of elevational treatment, unhampered by structural members.

The experiences of Rosebery Avenue confirmed, in the main, our expectations of this system, which has since been applied, in a modified form, at Busaco Street, at Paddington, and at Holford Square. In the main blocks at Rosebery Avenue the overall dynamic pattern is obtained by the introduction of a recessed balcony, the deep slate colour of which underlines the contrast between this plane and the rest of the elevation. The balustrades of these balconies, in contrast, are faced with light-coloured tiles to bring them forward. The solid and void of balustrades alternates from floor to floor, to give an overall rhythm, which allows the elevation to be perceived as a closed composition rather than as a series of strips.* In the small block this same juxtaposition of plane and void is produced by alternation of the plans of the flats themselves, the living-rooms and bedrooms alternating from one floor to the next. In the Busaco Street and Holford Square schemes, now under construction, the same alternation of the flat plans from floor to floor produces a more complex elevational rhythm, preserving, however, the same principle of relief treatment.

B. Lubetkin

*The balconies are narrow, only wide enough for a pram. Like all other balconies in this country, they are unlikely to be much used for picnics or sunbathing, but only as extra storage space, or a place for flower boxes. The beer crates go behind the solid parts, and the geraniums behind the metal grilles.



FLATS IN ROSEBERY AVENUE, FINSBURY



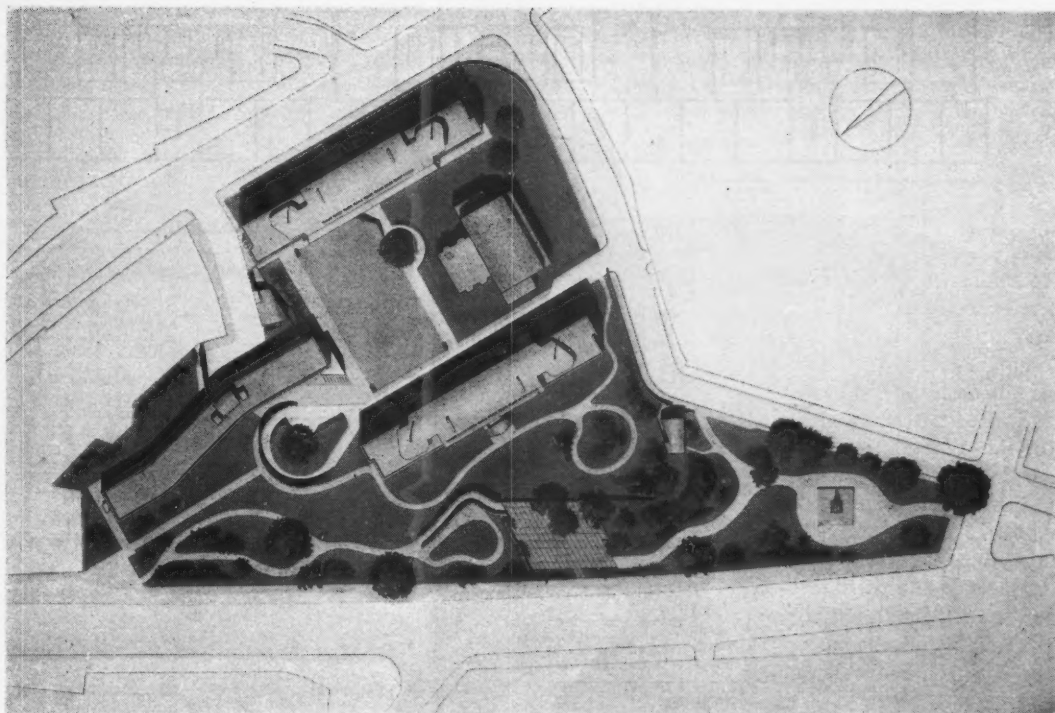
Above, from Rosebery Avenue, showing the two eight-storey blocks and the four-storey block on the left in the background. Left, one of the blocks from Spa Green gardens.



Above, the bedroom side of one of the eight-storey blocks, showing the drying shelter on its roof and, at its base, the projecting porch and entrance hall.



Left, the porch and entrance hall from above and from below. It contains two ramps leading to a row of forty pram-stores at ground-floor level. Above, a detail of the hood over the garden entrance at the other side of the block.



site plan scale 1 in. = 120 ft.

FLATS IN ROSEBERY AVENUE, FINSBURY

site The main axis of the composition runs north and south, both in order to obtain the greatest possible amount of sunlight on the two elevations, and to relate the two main blocks to the street plan. The west side closes a vista from Rosebery Avenue and helps to organise the space around Sadler's Wells Theatre, the Metropolitan Water Board and the town hall into the nucleus of a civic group, while the east side underlines the direction of St. John Street, which is to become an important artery under the County of London Plan. While the two high blocks thus form a town-planning landmark, and are related in scale with the monumental buildings of the area (existing and future), the surrounding terraces of late Georgian houses, of some architectural merit, and very characteristic of this district, also had their influence on the composition. To form a link in scale between these and the more monumental elements a third, lower block is introduced, the curved plan of which helps to make an informal transition from one to the other.

The three distinct geometrically defined elements of the composition are linked by an open courtyard in the centre which, in addition to the playground, is later to include a nursery school. The total area of the site is 1.7 acres on which 129 flats are provided.

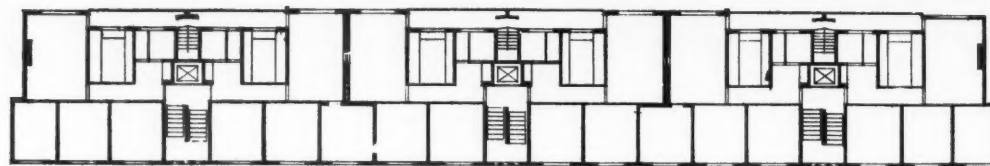
Each block is conceived as a completely separate, determined volume, a fact which is emphasised by the design of gables, walls and parapets as a frame. Within this frame the living-room elevation is treated with deep relief modelling, emphasised by the use of colour and material, while the back elevation, consisting entirely of bedrooms, has a less dynamic character relieved only by the rhythm of the staircase openings.

The roofs and ground floor halls introduce larger-scale elements which balance the punctuation of this elevation.

planning In the two larger blocks access is by staircases and lifts, each serving two flats on each floor. In the four-storey block there is balcony access, an open balcony on the kitchen side being reached by one central staircase. The large blocks each contain 48 flats; the small block 33. The rigid segregation of bedrooms and living-rooms on two opposite sides of each block lies at the basis of the internal planning. The bedrooms are all

Below left, a kitchen, showing the double service hatch, with space for crockery, between it and the living room; right, looking through the hatch into the living room.

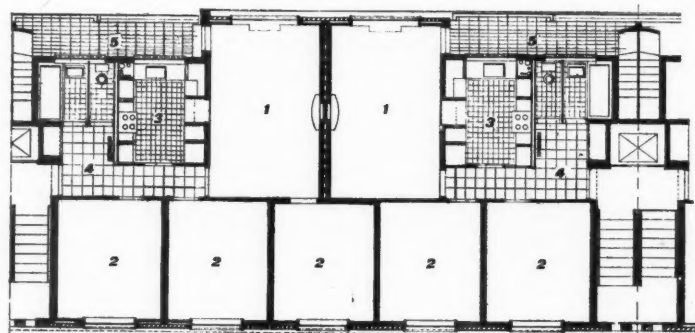




plan of eight-storey block scale 1/32 in. = 1 ft.

fairly uniform in size, the predominance of one main bedroom being avoided; pre-war enquiries tended to show that this corresponds more nearly to the requirements of the general run of families, who often use the bedrooms partly as workrooms for sewing, homework, and so on. The living-rooms and kitchens communicate by double-doored hatches, with the aim of preventing cooking smells in the living-rooms as far as possible. The balcony, accessible from the living-room, and under supervision from the kitchen, forms a play-space for young children and an extension storage space. The use of reinforced concrete carrying walls made it possible to avoid all projecting beams and stanchions internally, while all pipes are concealed in ducts and chases.

Special attention has been paid to sound insulation,



plan of flats: eight-storey block scale 1/16 in. = 1 ft.

key

1, living room. 2, bedroom. 3, kitchen. 4, hall. 5, balcony.

FLATS IN ROSEBERY AVENUE, FINSBURY



plans of four-storey block scale 1/32 in. = 1 ft.



plan of flats: four-storey block scale 1/16 in. = 1 ft.

key

1, living room. 2, bedroom. 3, kitchen. 4, hall. 5, linen cupboard.

not only of the floors and walls, but also of the lifts and staircases, which are completely isolated structurally. All the flats have central heating and hot water supply, and are equipped with the Garchey system of refuse disposal, whereby all waste is carried off through the

sink without any handling until it reaches the incinerator chamber. Although the equipment and design details both internally and externally are perhaps more elaborate than is usual in post-war housing, the cost (£508 per room) compares favourably with the average.

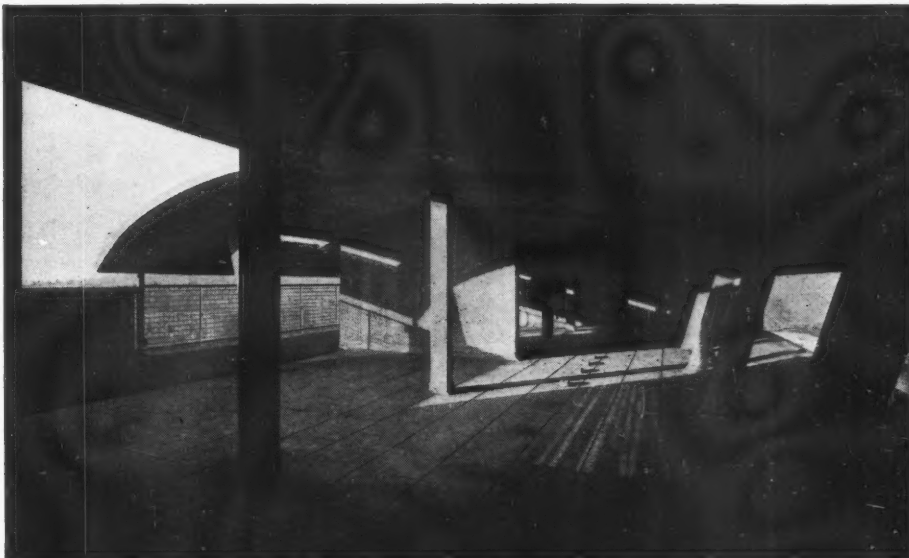
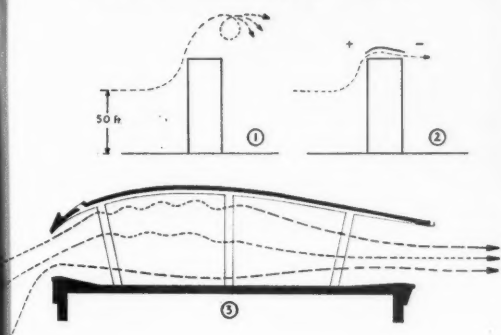
wind roof The size of the scheme did not warrant a central laundry. Gas-operated boilers are provided in the flats; and, in order to obviate the nuisance of drying clothes on the balconies, the roofs of the main blocks have been designed as covered drying spaces. In the case of one of the main blocks the cover to the roof was designed in collaboration with Professor Levy, of London

University, and was given an airfoile section which induces a flow of air in the slightest wind, the air being sucked in on one side and dispersed on the other. The shape of the cover, and the introduction of slots, were determined partly on this account, and partly to give a rippling current of air, since it was believed that this gives better drying conditions than a continuous flow.

1, the wind reaches maximum velocity about 50 feet above the ground, where it is free from the drag of obstructions. When it is diverted upwards by a building, eddies are formed.

2, the wind roof traps the rising air currents and funnels them across the roof. The build-up of positive pressure where the air strikes the building results in a zone of negative pressure on the other side, helping to draw the air through.

3, path of air currents through the drying chamber. The slots in the leading edge of the roof set up fluctuations in the airflow which increase its drying efficiency.

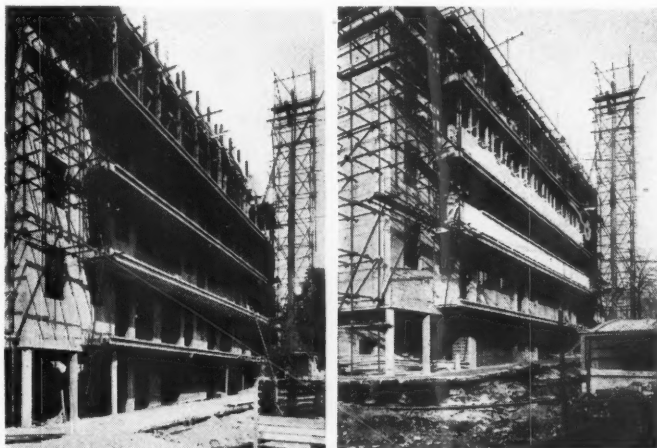


Above, inside the wind-roof of one of the main blocks

access gallery The four-storey block has outside gallery access. The gallery has a solid balustrade of pre-cast concrete panels 5 ft. in length. These panels (see progress photographs below) are supported by *in situ* reinforced concrete posts, 6 in. by 5 in. in section.

porter's lodge The same block, being centrally situated on the site, contains the caretaker's flat, which is on the ground floor at one end of the block. Commu-

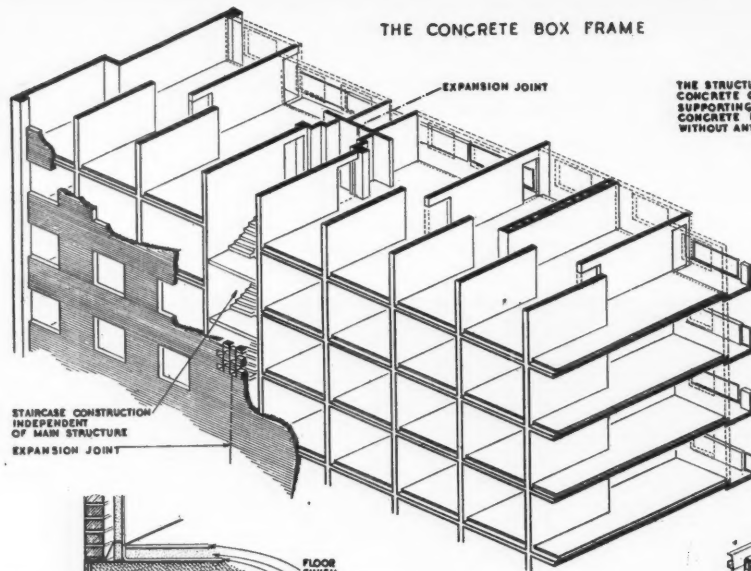
nicating directly with it is a porter's lodge, where parcels, laundry, keys, etc., can be left and arrangements made for small repairs, etc. From this central position, both the main and back entrances to the flats can be overlooked and the children's playground supervised. The porter's lodge is also near the refuse-disposal station (see page 148) and the central heating plant. This block also contains a public telephone for the use of tenants and a lavatory for children using the playground.



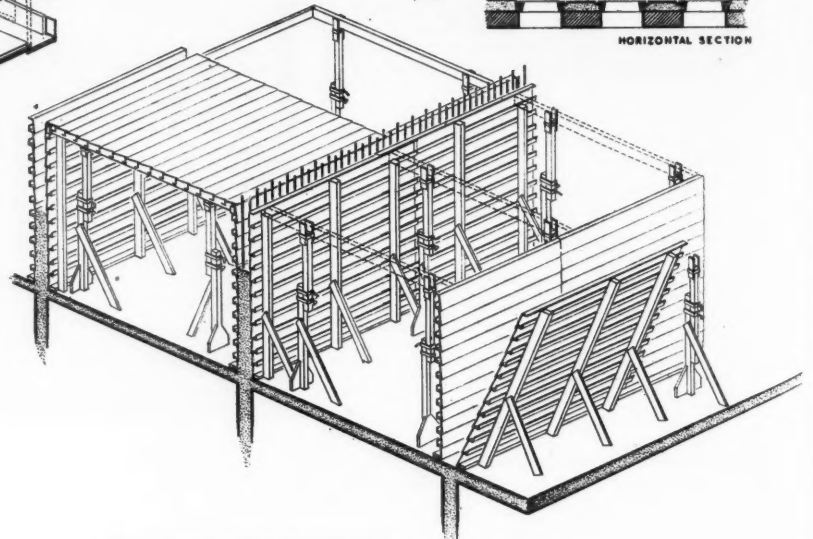
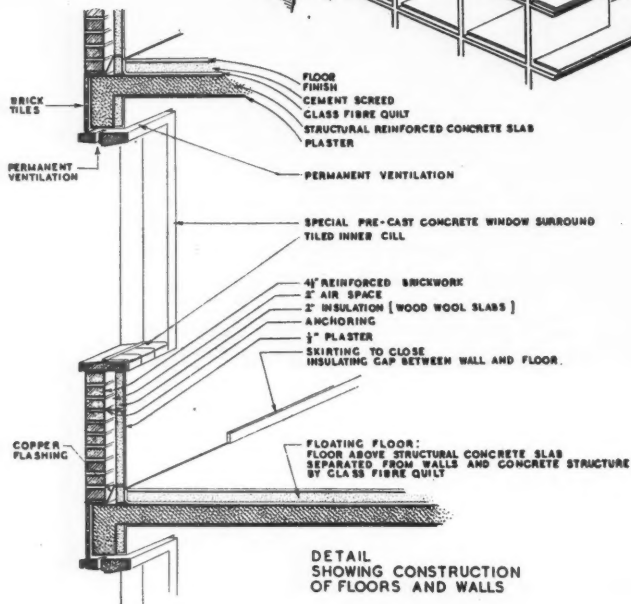
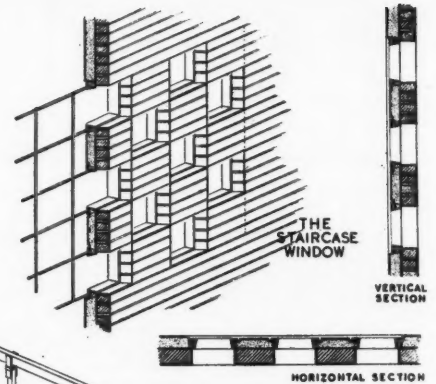
Above, progress photographs showing balcony construction in the four-storey block. Right, the finished balconies and the porter's lodge at the foot of the block.



THE CONCRETE BOX FRAME



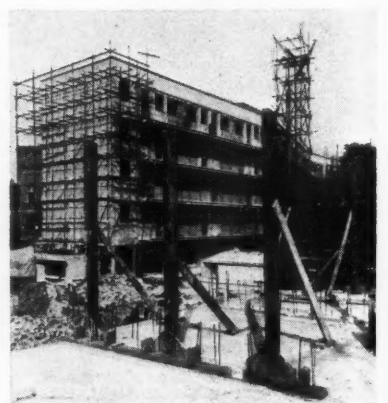
THE STRUCTURE CONSISTS OF REINFORCED CONCRETE CROSS-WALLS SUPPORTING CONTINUOUS REINFORCED CONCRETE FLOOR SLABS WITHOUT ANY COLUMNS OR BEAMS



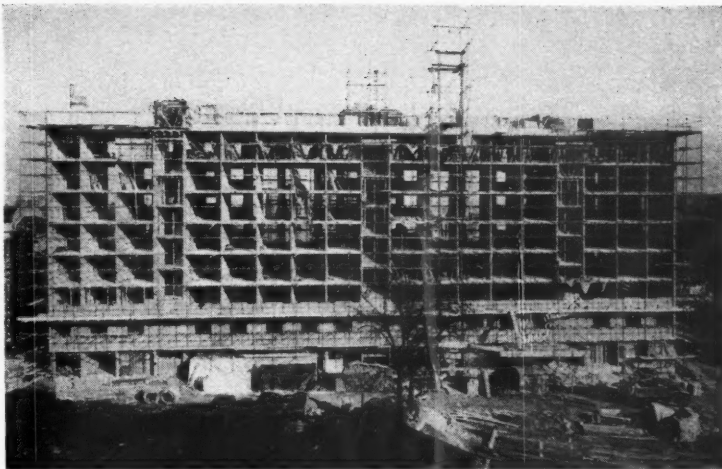
construction The structure was designed in collaboration with Ove Arup, the consulting engineer, and was the first in this country, as far as it is known, designed as a monolithic box frame. The main structural advantage, apart from economy, is the ability to counteract differential settlement by replacing the stiff longitudinal beams by a continuous slab with stiffened edges. From the architect's point of view the main advantage is the total absence of beams and stanchions which so often form obstacles to clean planning. The reinforced concrete crosswalls are only 5 in. to 7 in. thick, and the floor slabs $4\frac{1}{2}$ in.

The two high blocks are each cut into four structurally separate parts by vertical expansion joints, which are so arranged as to separate the lifts and staircases from the rest of the structure, thus ensuring sound insulation. The stairs and landings are cantilevered from a central concrete spine and are unsupported along their perimeter.

The economy of a box frame structure depends to a great extent on the design of the shuttering. It was decided to use a Danish system, consisting of Z-shaped laminated 10-gauge steel sheets which are easily handled, and, when laid, overlap to form a continuous surface. The same section is used both for walls and floors. When used for walls the sheets span horizontally between posts at 6 ft. centres, the sheets being perforated to allow



**FLATS IN ROSEBERY
AVENUE, FINSBURY**

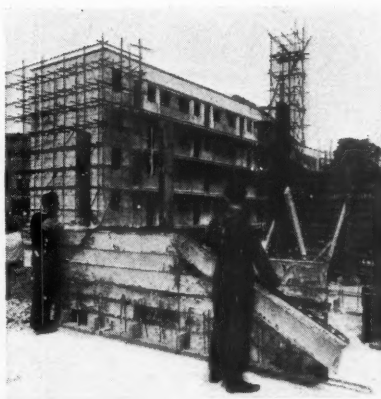


Left, a progress photograph showing the box-frame structure. Above, the finished elevation of the same block showing the structural system expressed in the fenestration.

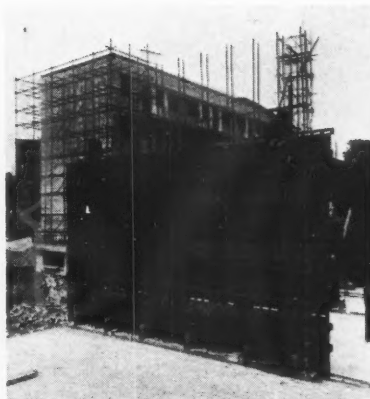
hooking to the posts. When used for floors the sheets are laid on cross-heads supported on adjustable props designed to allow controlled lowering, the Z-section of the sheets giving sufficient stiffness to span over 6 ft. 6 in. centres. In practice supervision is very necessary to ensure a tight joint between overlapping sheets, since any slackness results in uneven concrete faces. The sequence of erection of the wall and floor shuttering is shown in the accompanying illustrations, from which it will be seen that the walls can be concreted in one lift from floor to ceiling.

The foundations were originally designed as strips under the crosswalls, but poor subsoil made it necessary

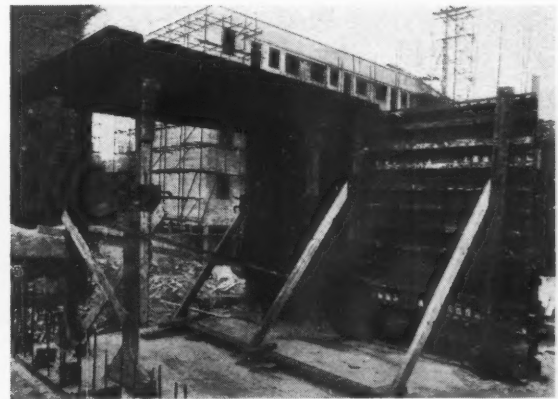
to replace this design by a continuous raft. The outside panel walls are generally of normal cavity construction. The outer skin consists of reinforced $4\frac{1}{2}$ in. brickwork tied to the crosswalls, while the inner skin is of cell-concrete slabs 2 in. thick. Where a radiator is fixed under the windows a precast concrete slab is let into the wall to give support, so that the radiator can be of the bracket type, clear of the floor. The gable walls and the balustrades to the balconies, are of reinforced concrete clad with frostproof tiles on cement bedding.



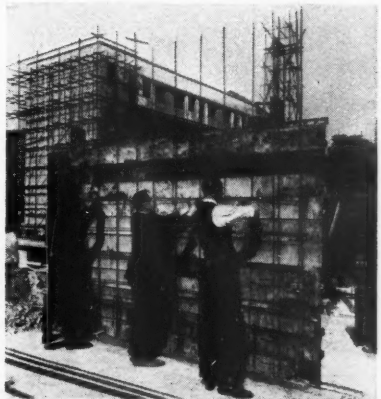
3



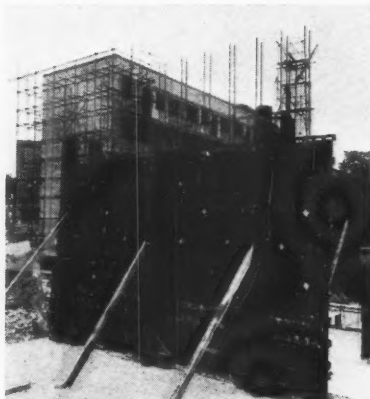
5



7

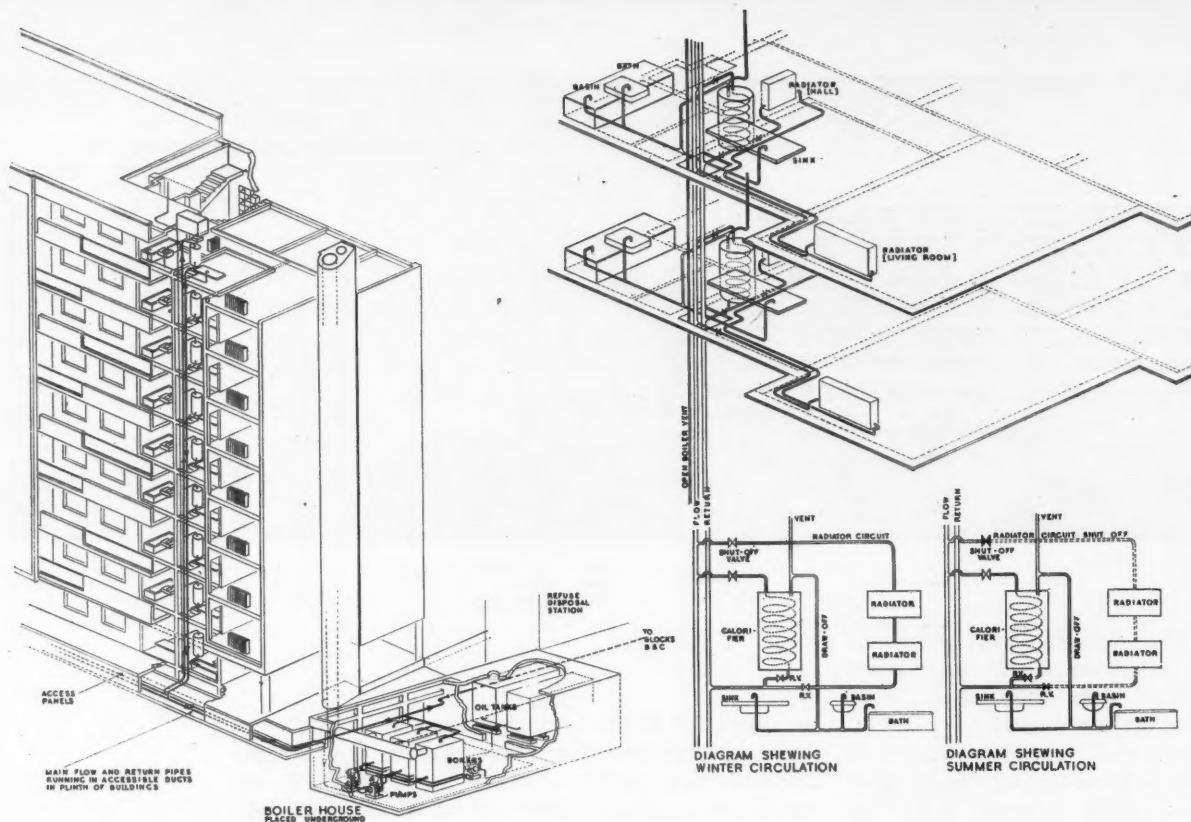


4



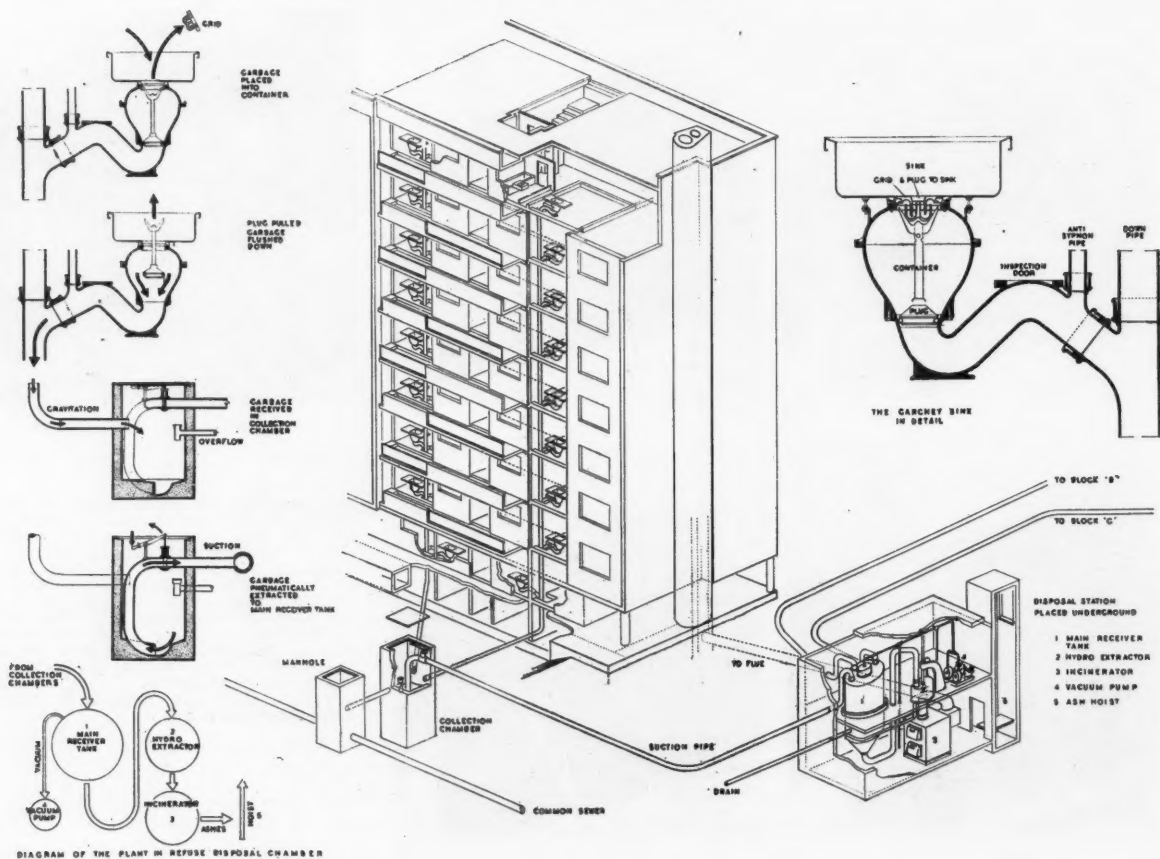
6

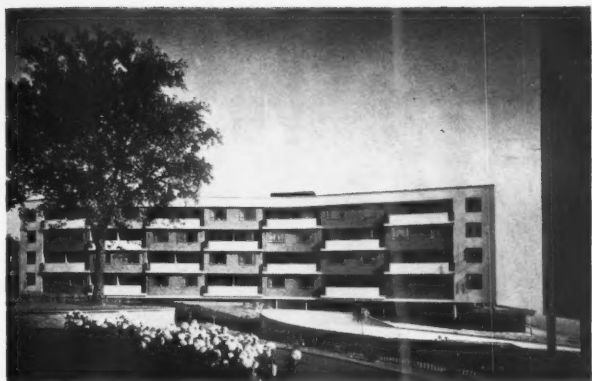
The sequence of photographs on this and the facing page illustrates the use of the movable shuttering for a typical bay. (1) The base for the wall, with protruding steel bars. (2) The holding posts are erected at 6 foot centres. There are hooks on the faces of the posts for attachment of the steel sheets. (3) The laminated sheets are slotted on to the hooks. (4) Steel fixers place the reinforcement after completion of one skin of shuttering. (5) The reinforcement in position. (6) Spacing blocks are fixed, and posts erected for the second skin of shuttering. (7) The wall section completely shuttered and ready for concreting. Shuttering for the next floor slab (using the same section of laminated sheets) is erected simultaneously. It is now possible to pour wall and floor in one continuous operation.



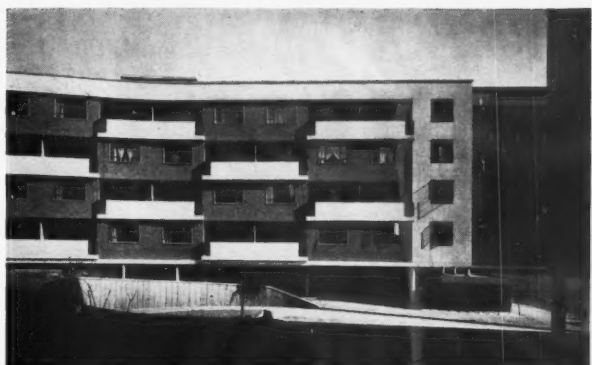
7-14 days into a large collection tank in the central disposal station. When all the collection chambers have been emptied, the contents of the tank are forced by air-pressure into a rotary hydro-extractor and fall in a dry state into an incinerator. The resulting ashes, reduced to the capacity of several dust bins, are removed periodically. At all stages surplus water is drained away to the sewers.

Below, the refuse disposal system. Each kitchen sink has a large plug in the bottom giving access to a container. Refuse is placed in the container through a gauge which ensures that nothing too large is inserted. By releasing a plug at the bottom of the container the refuse is periodically flushed away and falls by gravity into an underground collection chamber. From here it is sucked by vacuum every





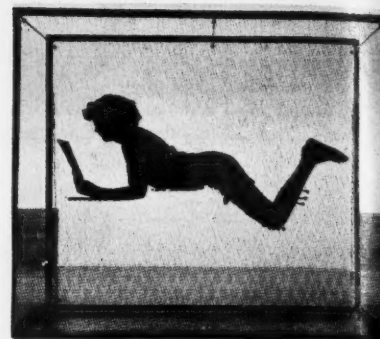
FLATS IN ROSEBERY AVENUE, FINSBURY



The four-storey block, of curved outline, lies between and parallel with the two eight-storey blocks. Attached to its end is the porter's lodge referred to on page 145. Left, the garden front taken from the end of one of the large blocks, and a close-up of one end showing the alternating balconies—see plans on page 144. Below, looking down on the smaller block from the drying shelter on the roof of the larger. The small building to the right houses the refuse destructor.

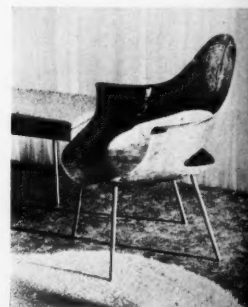


**FURNITURE
SINCE THE WAR**



A curious phenomenon in contemporary furniture design (which is the subject of an article beginning on the facing page) is the attention that has been given, especially in Sweden and America, to scientific or pseudo-scientific researches into posture, and the often rather naive attempts to base the shapes of chairs on the results. This interest in strictly functional shape has, of course, been invited by the liberation of furniture design from the older and more rigid types of structure and the introduction of materials like plywood and plastics that can be moulded into any shape—for example the Saarinen and Eames chair on the right. Some of these researches are genuine attempts to design more scientifically; others can only be regarded as a sop to the present-day enthusiasm

for rationalization or as a cleverly thought-out sales argument. Above and below (left) are illustrations of a machine called the 'contour delineator,' devised by Rudolph Jogrt at the Layton Art School, Milwaukee, with adjustable bars for trying out various rest positions. Below (right) is a reproduction of a full-page advertisement in *Life*, showing the commercial exploitation of the same idea in which the elegance and charm of the reclining chair pioneered by Aalto, Le Corbusier and others is lost.



HOW TO RELAX AND ENJOY LIFE

the CONTOUR CHAIR-LOUNGE

There is only ONE scientifically correct rest position—A

HEAD SLANT SLANT SLANT SLANT SLANT

BACK SLANT SLANT SLANT SLANT SLANT

THE CONTOUR CHAIR-LOUNGE HAS IT—AND KEEPS IT—in ALL positions.

EVERY FAMILY NEEDS AT LEAST ONE CONTOUR CHAIR-LOUNGE

Use and for one relaxation seat more wisely recognized by doctors than any other chair in the world. Men who come home tired and weary find it a boon.

Why Correct Posture Means Greater Comfort

Correct posture means a body in perfect balance. It means a body that is free from strain and tension. It means a body that is able to relax and enjoy life.

Relax and Help Your Heart

There is but one best way to relax. It is to lie down in a position that allows the heart to pump blood freely to all parts of the body. The CONTOUR CHAIR-LOUNGE is the only chair that does this.

"BEAUTY ANGLES"

There is a beauty angle for every part of the body. The CONTOUR CHAIR-LOUNGE is the only chair that allows the body to assume these angles.



FURNITURE SINCE THE WAR

In spite of shortages of material and restrictions on expenditure—and perhaps in some cases because of them—much interesting work on furniture design has been done since the war, and the time has come when the results can usefully be surveyed. On the following pages H. McG. Dunnett discusses the tendencies to be observed in various countries and provides some notes on the techniques and materials nowadays used for furniture making. The illustration pages that follow present a selection of the most interesting recent pieces of furniture from all over the world, grouped according to material. The choice has been made from living-room furniture only with a special eye on new techniques and ideas and a special emphasis on furniture designed for industrial production.

It is easy with a subject such as this to be led up the garden by a particularly good set of photographs. An imaginative design from abroad by an outstanding designer, or a small exhibition, well produced, may make it look as though we in this country are a bunch of stick-in-the-muds, while the Swedes, the Italians, the Americans or even the Brazilians bask in an Elysium of 'contemporary design.'

The facts, of course, are otherwise. As soon as one leaves the fascinating pages of *Domus*, the glamorous photography of *Interiors*, or one of those periodic exhibitions at the RIBA and collects a few facts, the scene changes. From time to time, one country will look more favourably on new ideas than another, but that is all. No country is, or ever has been, a happy hunting-ground for the contemporary designer. Whatever his nationality, his view will be that his own countrymen are the most backward in appreciating his contribution, and that every other country offers a greater opportunity for first-rate talent.

The furniture industry is a curious one in two respects, for it conforms to almost the same pattern throughout the world. In western Europe and even in the United States, the furniture industry produces primarily for the home market and, relative to total production, very little furniture is exported. Of this manufacturing capacity, some eighty per cent is everywhere devoted to the production of either antique reproductions or a semi-reproduction type which has strayed so far from the traditional model that the salesmen get away with the description 'modern.' This leaves a very small capacity for the makers of decently designed contemporary furniture.

The second similarity is in the character of the industry. Furniture production is, with but few exceptions, a small scale industry. Relatively little capital is sunk in plant and machinery, and the majority of firms are small to medium size, specializing in distinct types of furniture, e.g., chairs, dining-room furniture, upholstery, and producing them in batches of dozens rather than hundreds, except perhaps for chairs. This type of production permits great flexibility on the part of each firm, but in bad times leads to bitter competition and sometimes to skimmed work, because so many make the same sort of design instead of using their flexibility to make designs that their rivals do not. This is particularly true of the industry in the East End of London.

The large producers rarely care to run the risk of manufacturing adventurous designs that might be doubtful sellers,

so the experiments in design are normally left to the smaller producers. In countries like Sweden, Denmark, Holland and Switzerland, which are industrialized but have small populations, the ascendancy of the very small firms is even greater than in the United Kingdom and the USA.

Apart, of course, from the special effects of the war, there are always tendencies, almost national moods, that can affect a country's general attitude towards a progressive or a conservative assessment of design. Twenty-five years ago Germany led the Modern Movement largely because defeat in war had brought a reaction against established orders. Anything new was untainted. In 1939, the USA hardly knew that there was a Modern Movement, but today there are signs that the experience of being one of the two great powers is bringing to an end their complete dependence on European tastes, and that their own forms of contemporary design may be evolving.

effect of the war

The war of 1939-1945 naturally had tremendous repercussions on furniture manufacture and design in all combatant countries. The degree of upheaval varied with the extent of civil and military mobilization in manpower, material and manufacturing resources. In the United Kingdom, production to all intents and purposes stopped from mid-1940 till the utility scheme was instituted in 1941, because labour, materials—mostly imported—and plant were directed to war purposes. Italy, Germany and Czechoslovakia were affected in the same way, and even the United States, despite their enormous natural resources, imposed restrictions on the use of timber, glues and metal, and diverted many factories to war production. The countries of occupied Europe had their resources harnessed to the German war machine to as great a degree as those fighting, so the result there was the same.

This seems quite straightforward and natural. The most interesting design casualty of the war, however, was Sweden, a country that not only remained neutral throughout and therefore did not suffer from the devastating changes of total mobilization and bombing, but also experienced an increase in furniture production. Even price control only affected existing designs and so favoured the development of new ones. There was no shortage of timber, for supplies grew almost at the back door. Neither labour nor factories were diverted to armament making. Moreover, Sweden had for ten

years been a leader in contemporary design of all kinds and the Modern Movement had probably been accepted by a higher proportion of the population than in any other country in the world. And she still had her designers. But somehow the stimulus was not there. She was cut off from the rest of the world of designers and ideas. She was surrounded by the atmosphere of conflict. Their spirit starved, her designers turned to a 'folksy' style, just as the Germans did in 1933 when the Bauhaus and all that it stood for was suppressed by Hitler and Germany turned to its own form of spiritual isolation.

With the passing of 1945 and the end of the war, the world scene changed with a vengeance. The United States soon abandoned all controls, reconversion to peace-time production was very rapid, and within two years there was more evidence of a Modern Movement than in the preceding twenty, a process which has continued without check. Contemporary designs in all sorts of material and combinations of material have appeared. Solid wood, plywood, laminated wood and fabric, tube and solid steel, aluminium alloys, glass, perspex and other plastics have all been used in a variety of ways to produce new forms. New processes for manipulating plywood and lamination, developed for the aircraft industry, have been used for furniture design.

Sweden, on the other hand, has continued to mark time, though the tendency seems to be to experiment with plywood and laminated forms for cheap mass production furniture. There is a sort of social conscience at work behind the incredible researches into sitting postures on which Dr. Akermblom spent two years and which resulted in some very uninspiring designs.

The same applies to the investigation started in 1940 and not yet complete, by a joint committee of the Swedish Society of Architects and the Swedish Arts and Crafts Society into how families that live in small flats use their rooms, and to another into the functions of furniture, directed towards standardized construction. It is not suggested that these programmes of research are not valuable; the curious thing is that they seem to have replaced the urge to design.

There is one branch of design in which Sweden has shown some progress—along with Holland, Switzerland and Denmark, the USA and to a lesser degree the United Kingdom—and that is in the design and production of 'knock down' or 'packet' furniture, which can be delivered flat in cartons and assembled quite simply by purchasers, with the minimum demands on technical skill.

Sweden's furniture industry continues to be dependent on her own wood production, mainly birch, and it is noticeable that metal and plastics are hardly ever used, at least not in forms that influence design. Denmark, on the other hand, seems to have enjoyed a period of stimulation in design following its liberation, and for a country with a smaller population than Sweden and an economy far less industrialized, has produced far more, relatively. Like Sweden, wood—from the Baltic—is used almost exclusively and production is almost entirely carried on in small workshops. Some of the designs, particularly chairs, are nevertheless well adapted to mass production.

The biggest surprises in design since the war have come from a country far distant from Scandinavia, a country with a far smaller pre-war reputation for contemporary design. Italy, freed successively from a Fascist regime, a German occupation and an allied one, defeated, apparently ruined, and with all the essential ingredients of a first-rate revolution, has instead staged a design revolution that puts her ahead of almost all others. Well publicized, at least abroad, by a reborn *Domus*, these new ideas have already had repercussions on design everywhere.

This new movement has nothing to do with the established furniture industry, which is devoted almost entirely to the manufacture of reproductions from the antique. It was started by a group of young architects who were unable to find suffi-

cient employment in their own profession due to the economic conditions following the war. Much of their work is produced by small craftsmen in small quantities, and in fact is little more than experimental. Some, on the other hand, is designed for cheap quantity production and constitutes an entirely different conception of design to that of the Scandinavians in its freedom of form and variety of material. Controls on the use of materials as we know them in this country, particularly on steel, just do not operate, and the result is a remarkable upsurge of ideas and applications.

progress in Britain

How does post-war progress in Britain compare with the activities in the USA, Scandinavia and Italy? We came out of the war with two legacies and a number of problems which are, to a large extent, independent of the furniture industry, but which affect it enormously. The first was the utility furniture scheme, designed originally to preserve a standard of quality, design and price, when furniture shortages were so extreme that almost anything that would stand up could be sold as furniture.

The second legacy was the purchase tax, which was levied at 33½ per cent on all wood furniture that did not conform to utility specifications, and at double that rate on furniture containing metal. The utility scheme was subsequently relaxed in 1949, enabling manufacturers to produce their own designs provided these conformed to strict limitations as to type, material and cost. The purchase tax on metal furniture was reduced at the same time to 33½ per cent.

Besides these direct controls there were many indirect ones which had equally far-reaching effects. Most of them were aimed at expanding exports and limiting imports, particularly dollar imports. Currency restrictions prevented the use of many suitable hardwoods, while softwoods and plywoods were channelled into the building and other selected industries, and licences were not granted for the use of steel in furniture except in a few special cases. The result has been, practically speaking, to limit the choice since 1941 to utility or secondhand furniture. Non-utility furniture designs have been almost non-existent, first because of the difficulty in obtaining licences for the materials, and secondly because the cost plus purchase tax made prices prohibitive.

During the last eighteen months, designers and manufacturers of contemporary furniture have been able to produce a moderate range of new designs within the utility specifications, but only with extreme difficulty. One false step in the use of a material or in costing meant that a design automatically became subject to the purchase tax. Sometimes difficulties and limitations can be a challenge to the designer, but restrictions of this kind are particularly difficult to overcome. The fact is that a good designer is not the sort of individual who can spend half his time looking for loopholes in a mass of regulations, which are frequently so illogical that they do not make sense. It is asking him to develop a sort of 'spiv' mentality which cannot be reconciled with good design. The result is that many designs never pass the drawing stage, remaining in cold storage till the manufacturers' risks in producing them are less, and some of the anomalies in the application of purchase tax are abandoned.

It is possible that manufacturers' estimates of their risks are overdone, and this possibility is underlined by the combined effort, recently launched, of the Scottish Wholesale Furniture Manufacturers, which made such a stir at the British Industries Fair last year. By distributing the risks over a number of manufacturers and small workshops, commissioning several leading designers and going into the project in a 'neck or nothing' manner, they may well have devised the type of organization most suited to cope with the present restrictions. Or perhaps the answer is only one of good sense, courage and self-confidence.

methods and materials

The outstanding feature of the furniture industry through-

out the world, and even in the United States though to a less degree, is that it is still very much a craft industry—not actually hand-production but a machine-assisted hand production. There are, of course, exceptions, but the fact remains that there is very little large machinery specially designed for furniture production, and the tendency has been to adapt metal-working machinery for the purpose.

There have been, however, certain developments outside the furniture industry proper that have had far-reaching influences on furniture design and these are likely to increase rather than the reverse. Furniture is still largely made of wood, and solid wood at that, shaped and joined by the traditional wood joints and glue. Most of the joints, such as the dovetail and mortice and tenon, have been adapted to cutting by machine, and shaping, planing and sanding is also done in this way. But the structural requirements are still the traditional ones; a chair requires four legs, and the legs must be jointed to the frame at the top and the seat dropped into the frame, unless it is solid wood and thick enough to hold the legs firm. The reason for this is that solid wood is a natural material and even when it has been thoroughly seasoned in the open or kiln-dried, it will always react to humidity and to temperature changes, and move even after it has been made up into furniture. For this reason too, it is, generally speaking, unsuited to mass production because it cannot be worked to the fine tolerances of metal.

The development of plywood and, later, of resin-bonded plywood gave the furniture industry a wood material that could be machined with far greater accuracy with their normal tools and which, because of its structure, did not react in the same way as solid wood. But it was used as sheets for cabinet carcass work as if it were mere wood and left it at that. The experiments with bending and shaping into complicated curves came from the plywood and plastics industries, not from the manufacturers of furniture. Laminated wood, on the other hand, was tried out, particularly by chairmakers, because it could be built up and pressed with cold synthetic resins. Moreover, they were accustomed to using bentwood, which is shaped solid wood and easy to bend, for the use of bentwood is a craft that in this country dates back to the eighteenth century Windsor chair, which is still being made here. Laminated wood could be used more economically, in many cases, to make the same sort of thing.

The more complicated laminations of paper, fabric and combined metal and wood, and the processes by which they could be worked were completely beyond a medium-sized furniture manufacturer, because they required chemical knowledge, techniques, skills and equipment and moreover a fresh approach to design that was entirely outside his normal orbit. The first modern developments came, in fact, from much further away, from the countries that made the plywood—Finland and Sweden—yet most of us see the prototype every time we walk into a Public Bar, although it may be punched full of little holes.

Introduction of metal

Metal as a material for modern furniture dates in effect from the Bauhaus days of Marcel Breuer, and the experiments that he and later Mies van der Rohe made with tubular steel. But as usual there are much earlier examples in the techniques of bent iron, cast iron and wrought iron that show how, years before, a few people were already experimenting with the forms and structures that were inherent in the various types of metal then available.

The main difference between the past and the present is in the use of steel in various forms, and in aluminium and its alloys, rather than iron. It is also important to note that both the ideas and the capital that produced the metal furniture industry came, as with plywood, from individuals and firms outside the established furniture industry.

As with plywood and its variations, steel and aluminium alloys were homogeneous, static materials more easily

adaptable to machine production and the use of unskilled labour than wood. Changes under conditions of heat and humidity could be calculated exactly, ample supplies were available of a standardized product, and although quantity production is not an essential prerequisite of manufacture, both materials are ideal for mechanical production.

The designers of metal furniture have without exception employed standard types of steel such as cold drawn tube, mild sheet steel, drawn rods and wire, and extruded sections. The forms of finished steel used have also tended to be confined to those that do not need costly machinery to shape them subsequently, such as would be necessary for, say, special stampings and pressings in steel. The same applies to aluminium and its alloys, but with certain reservations, for being a much more malleable material it can be manipulated very easily as aluminium sheet, with relatively little pressure compared with steel, into spherical shapes. It can also be cast economically, which is out of the question with steel.

These two materials, steel and pure aluminium, have natural properties which differ considerably. For reasons of cost and weight, metals must be used in the minimum quantity consistent with sufficient strength. The greater strength of steel, in the fine gauges that meet these requirements, enables its resilience to be adapted in its tube form to sprung chair legs, for example. This is impossible with pure aluminium because of its softness, though aluminium alloys may be used in this way but are far more rigid and much lighter in weight. Thin sheet steel becomes practically rigid if stiffened by bending over its edges. Aluminium sheet is again too soft, gauge for gauge, but can be used satisfactorily in thicker gauge if for example it is corrugated, and it will then still have an advantage over steel in weight. Aluminium alloys are more expensive, but approach much more closely to steel not only in strength and rigidity but also because they are less malleable than pure aluminium.

Aluminium of all kinds has one enormous advantage over steel in that it does not oxidize, and various colours and finishes can be made chemically part of the metal. Steel always requires some form of surface finish such as paint, plating, galvanizing or plastic coating to prevent it rusting. Stainless steel is, of course, an exception, but it has so far been much too expensive to use for furniture.

The influence on design of these new materials and methods has been notable, and they have even reacted on the design of the solid wood furniture in a number of interesting ways. It is apparent that the use of tubular metal has revived the designers' interest in turning for the solid members of chairs and tables. A 'spindly' effect in some of the Italian furniture, achieved by the use of hardwoods in fine turned sections, is undoubtedly due to the influence of metal. In contrast, sections of solid wood in which bulk is emphasized have been utilized in recent designs, but finished in ways that almost suggest metal casting or pressing. The use of bentwood, too, has been stimulated by both laminated wood and tubular metal design. These new factors in furniture design are undoubtedly having a beneficial effect, and the introduction of the new synthetic glues, already referred to, may well result in this process being carried still further.

techniques: solid wood

In spite of the many materials and techniques that have been adapted for furniture-making in recent years, solid wood—as one must call it nowadays—is still used extensively for furniture of every description. Techniques and structures have changed little, for machines have been used mainly to speed up the methods of sawing, shaping and smoothing. The traditional ways of working wood have thus only been modified rather than replaced. The traditional joints, the tongue and groove, the mortice and tenon, the dowel, the dovetail, though adapted for easier mechanical cutting are still the only satisfactory means of holding the various members together, and glue, animal glue that is, in general

use as an aid to the joints, where once it was regarded as a sign of bad craftsmanship. Perhaps the only new material that may radically affect this situation is synthetic resin, for it is sufficiently strong to be used to join two boards edge to edge without a support—at least for the join.

Solid wood, however, always tends to move with changes in atmosphere, no matter how well it is seasoned or kiln-dried—that is artificially seasoned, or how carefully the boards are cut from the log. Due allowance must be made in the joints for this tendency, or the wood will follow an alternative course and warp or split.

Furniture woods are divided, according to their natures, into three types—softwoods, medium woods, and hardwoods. The softwoods are those that swell or shrink most such as American whitewood, deal, pine and cedar. The medium woods include most of the well-known furniture woods such as mahogany, walnut, oak, beech and most of the fruitwoods. In general these are nearer the hardwoods than the softwoods, and are by far the most satisfactory, since they are tough and much more stable. The hardwoods which include yew, satinwood, rosewood and ebony are very tough indeed and very heavy, difficult to work and normally are used only in small quantities or for veneers.

Furniture-making in solid wood is essentially a process of building up a framework of straight pieces, jointed together to support a body in a chair, a table top or desk top, or to build up a cupboard or a rack for drawers. For the job of enclosing this framework, solid wood has been largely abandoned in favour of plywood and blockboard, though use is still made of one or two woods like oak and black walnut in solid form.

bentwood

The technique of bending wood must be as old as boat building. In furniture design it has been used mainly in chairs, to make slender curved members which it would otherwise have been impossible to make sufficiently strong, either with jointing or with curves cut from the solid. The best known traditional example is the Windsor chair, in which the curved back, the arm-rests and supports and the stretchers are all bentwood. In this chair each curved member is held in place either by the stick-back or by rigid members, for the bend has inevitably a slight tendency to open, though never to return to the straight. This slight disadvantage, immaterial in chairs, prevents it from being used satisfactorily as framing in cabinet-making.

In the Windsor chair it is almost as if a prototype had been designed for mass production, and in this it is a forerunner of the other well-known range of bentwood chairs—the Thonet. Michael Thonet, whose chairs were the first example of mass production and specialization in the furniture industry, an industry which for technical reasons adopted mechanization relatively late, used bentwood for everything but the seats. The result was a chair in which all the traditional cabinet-maker's joints were discarded as being quite unsuited to the stresses involved. Its form was nevertheless conventional, with four legs, but the back and back legs were in one piece, shaped like a hairpin and attached to the seat-frame with bolts.

The most suitable woods for bending are the close and straight-grained varieties like beech, ash and hickory. The lengths are cut with the grain and even with slender flat and circular sections, a degree of strength combined with lightness in weight can be achieved, far greater than is possible when these relatively inexpensive woods are used in the solid. To make the bend, the wood is steamed, and the effect of the heat and humidity not only renders it pliable but changes its molecular structure. The bend is clamped till the wood cools and by then it is set, displaying hardly any tendency to return to its original shape.

Present-day techniques are only modifications of the traditional ones, aimed at more rapid methods of mass production. The steaming is done in a controlled steam chest, for periods that depend on the thickness of the wood. With

moderate curves, the bend is set by attaching temporary blocks of wood at either end and connecting them with a wire, roughly to form a triangle, which takes the tension till the bend is set. When the curve has to be sharper, the wood is braced in a flexible metal strap on the outside of the bend, for tension naturally occurs on the outer surface and compression on the inner, and it is necessary to prevent a fracture before the latter reaches the correct degree of compression.

With these sharper bends, and particularly with thick sections of wood a former is needed, shaped to the bend required, either in a solid shape or by means of pegs set in a board. Full circle bends are made on the same principle, the former being shaped like a drum, and the wood slowly rolled round it.

wicker

Wicker or cane furniture design is based on basket-making methods that are probably older even than furniture itself. It is only recently, however, that the present-day types were evolved for terrace and garden use. The material is mainly a type of cane, known as rattan, which grows wild in the Malay States and other parts of the Far East, to lengths of 500 to 600 feet. These grow up to one inch in diameter. For commercial purposes they are cut into lengths of from twelve to thirty feet. This rattan, stripped of its bark, becomes smooth polished cane, used in various thicknesses for the main parts of wicker furniture. There are, however, two parts to the wood. The outer part can be split off to make fine slivers of cane smooth on one side, and the core which remains is then also split and converted into thin strips of various sections which are used for weaving.

Wicker furniture manufacture thus involves the combination of different parts of the rattan into a structural form that is peculiar to that material. It is indeed a structure. The main thick members are bent to a variety of shapes over a flame, other members are worked into the design to provide strength and rigidity at selected points, and these are all tied in place with the slivers of split cane. The seat and back of a chair, for example, may be made lengthwise by tying more lengths of narrow cane at suitable intervals to the main cross members, or, alternatively, the thin pliable lengths cut from the core may be woven between the main side-members.

As will be seen from the illustrations, an infinite number of effects can be produced, but in the main the choice lies between a number of circular section lengths tied together and a combination of these and woven parts. In addition to rattan, of course, rushes, bamboo and various tough grasses are used from time to time in combination with other materials, mainly to make the seats of chairs, but these materials have rarely been adapted to contemporary furniture design.

plywood

Although the technique of glueing a number of veneers together to produce a form of plywood has been known for centuries, its real value for furniture had to wait on the invention of synthetic resin glues. Plywood is made by using a minimum of three thin layers of wood, with the grain of the centre layer running at right angles to that of the outer layers. When the layers are glued together, the natural tendency of even seasoned wood to shrink and expand, in changing conditions of humidity, is practically eliminated, for each sheet seeks to move in the opposite direction to those above and below it, but cannot. Plywood therefore offers what is to all intents and purposes a piece of timber board workable like ordinary board, but possessing the characteristics demanded by present-day machine processes. Moreover, the only limits to the size of a sheet of plywood are the presses themselves, for the single ply is obtained by fixing a log in a large rotary cutter and, as it were, peeling the tree till it is converted from the solid trunk into something resembling a roll of linoleum, which is laid out flat and cut into sheets. Thickness for thickness, this type of cut gives the strongest wood because it follows the annular rings. Plywood, too, has

SOLID WOOD The term 'solid wood' is used here to indicate timber as it comes from the tree, except for the necessary seasoning and cutting. It is thus distinguished from the plywoods and laminated woods, which have entirely different characteristics. Within the last thirty years, these new manufactured forms of wood and metal have taken the place of solid wood for special purposes such as table-tops and cabinet walls, and even for complete pieces of furniture. This process of substitution has gone far, and it is possible that solid wood as a furniture material may one day disappear entirely. Solid wood, fortunately, has one important characteristic in its favour. It is not only extremely flexible in the forms available, but also in the methods of working it, since these are still essentially machine-assisted hand processes. This flexibility has resulted in the curious phenomenon of design for a hand-process being influenced by the machine process forms evolved for plywood and metal. These influences are distinguishable in 2, 4, 5, 7, 8, 15 and 22 below. In these examples, this process does not go far, and all of them incorporate details that could only be executed in solid wood. It will be healthier for the survival of solid wood if designers do not pursue this tendency too far. 9, 10 and 16 steer clear of any tendency to imitate. Lastly, a new way of using solid wood, partly of economic origin, is shown in 14 and 17. In both, the decorative and traditional use of natural wood markings has been abandoned in favour of mechanically produced textural effects.

1 A straightforward example of a modern solid wood chair composed of short, robust members, each cut as one piece of timber. Chair in beech; designer, Ian Henderson (Great Britain) for Story & Co.

2 Slim lines and rounded surfaces suggest the influences of metal furniture, although these wood-working processes are generations old. The flared arm-rests and seat supports suggest the material used. Chair in beech; designer, Dennis Lennon (Great Britain).

3 Essentially a traditional but functional chair. The turned bulges on legs and stretchers are a contemporary functional touch like the self-sprung slats of the back. Chair in English walnut; designers, R. D. Russell and R. Y. Goodden (Great Britain) for Scottish Furniture Manufacturers.

4 A chair of straight sections—the clever concealment of the front-to-back support suggests even more strongly the structure of metal, e.g., cast aluminium. Chair in birch; designer, George Nelson (USA) for Hermann Miller Furniture Co.

5 This easy chair shows the influence of plywood design, though each leg is in two pieces (three with the arm-rest) braced by the depth of the seat. Chair in elm; designer, B. Uher (Czechoslovakia).

6 A chair made by traditional methods but such a simple solution in the contemporary manner that it is almost a classic. Designer, Abel Sorenson (USA) for Knoll Associates Inc.

7 An extreme example of how tubular metal design can influence that of solid wood. Every member is turned and only the tapered legs and the thickness of the sections suggest that it is not in metal tube. Designer, T. H. Robsjohn-Gibbings (USA).

8 Another example of the influence of metal. This dining-group with side-board (see also 15) suggests both the angularity and roundness of metal work, though the details could only be made of solid wood. Table and chair in Nigerian cherry and stained beech; designer, Robin Day (Great Britain) for S. Hille & Co.



SOLID WOOD

9 Demonstrating the vitality that can still be derived from traditional materials and techniques without the extraneous influences from plywood or metal furniture design, though these have been a valuable stimulant. Furniture in birch; designer, G. Nakashima (USA) for Knoll Associates Inc.

10 A little less accentuated in style than that in 9, but equally good as examples of contemporary design based on traditional methods of working solid wood. Chairs in beech, table in beech and teak; designer, A. O. Larsen (Denmark) for Fritz Hansens Ejftl.

11 The lips of the table top and the shaped legs reflect a frequently used contemporary formula. Other examples are 8, 17, 20 and 21. Coffee table in mahogany and sycamore; designer, Jacques Groag (Great Britain) for Scottish Furniture Manufacturers.

12 Solid wood used with other materials in a coffee and flower table; designer, George Nelson (USA) for Hermann Miller Furniture Co.

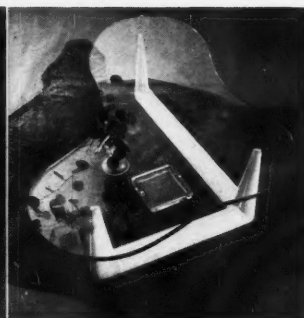
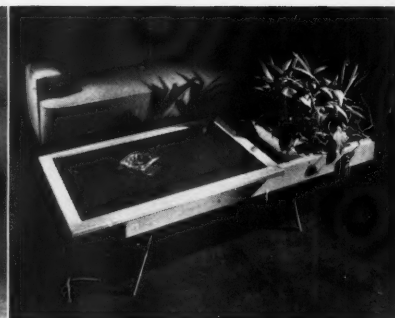
13 Another way of combining two fine materials. Both have valuable intrinsic decorative qualities. Cocktail table in glass and cherrywood; designer, T. H. Robsjohn-Gibbings (USA).

14 For inexpensive carcass furniture like this, solid wood has been largely replaced by plywood, except for the framework. A flush solid wood door requires careful selection of timber. Here, the use of solid wood as slats, not only lessens the selection problem but provides texture. Sideboard in oak; designer, Geoffrey Dunn (Great Britain) for Dunn's of Bromley.

15 The structural framework comes out into the open and the resulting form is used for its decorative value. This reverses in some degree the process referred to in 14. Sideboard in white ash and rosewood; designer, Robin Day (Great Britain) for S. Hille & Co.

16 Scandinavian furniture designers confine themselves very largely to designs in wood for obvious reasons, and particularly in solid wood. By selecting a timber of pronounced grain and then adopting a simple treatment, this well-fitted but otherwise conventional design achieves a thoroughly contemporary character. Cupboard in pine; designer, Axel Larsson (Sweden) for A.B. Svenska Möbelfabrikerna.

17 A treatment in solid wood, in line with that of 14. This method of serrating can satisfactorily be done by standard machine technique. It breaks away from the conventional idea that wood design must depend on the grain and introduces instead a three-dimensional textured effect. Unit cupboard in mahogany; designers, R. D. Russell and R. Y. Goodden (Great Britain) for Scottish Furniture Manufacturers.



18 Bookcases have had rather less attention from designers than other types of furniture. This 'lean to' adjustable design is a simple solution and more decorative than most. Bookcase in beech; designer, V. Magistretti (Italy).

19 Both these pieces are conventional modern types, but show well how contemporary designers achieve an effect of minimum bulk by judiciously placed spaces and tapered legs, yet avoiding flimsiness. Chair and writing-table in stained oak; designer, Dennis Lennon (Great Britain) for Dunn's of Bromley.

20 The framework used honestly to support the two essential parts, an even more downright example than 15. Typing desk in mahogany; designer, Clive Latimer (Great Britain) for the Furniture Development Council.



21

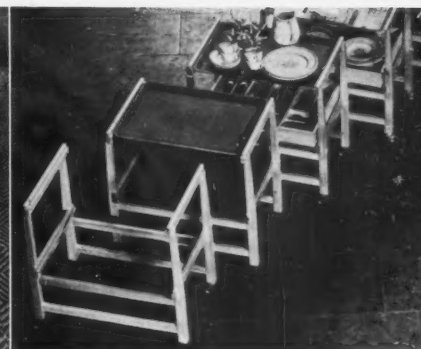
22

23

21 Many stimulating designs have appeared in post-war Italy. Accentuated slimmness is possible with hardwoods. Desk and chair in ebony; designers, Ico and Luisa Parisi (Italy).

22 Trolleys are usually either dull, or over-elaborate cocktail bars. This design, again in the metal idiom, breaks away from both types, possibly because the usual trolley load has been considered. Trolley in rosewood; designer, Clive Latimer (Great Britain) for S. Hille & Co.

23 An ingenious four-legged trolley, comprising frame and interchangeable parts. Trolley in birch; designer, B. J. Gulberg (Sweden) for A.B. Nordsvenska Fabriker.



BENTWOOD Although dealt with separately, bentwood is a 'solid' wood, wood-bending being a special shaping process possible only with a few straight, close-grained woods. It has been most widely used in the traditional early eighteenth century 'Windsor' chair, and in the 'Thonet' chair mass-produced since the mid-nineteenth century. Recently, although the process has been exploited by contemporary designers, particularly in Scandinavia, it has suffered from competition from the laminated process, since far sharper bends are possible in that material without loss of strength. It is eminently suitable for a design such as 26, where any weight would be well distributed. In 3, 9, 10 and 25 likewise, the bentwood rail is only part of a structure. Where the bent portion has to take considerable weight on its own, thicker section wood is needed. The designer of 24 has managed this cleverly by shaping the single piece that forms the back leg and arm-rest, as well as bending it. The weight is actually taken below the bend, where the wood has been left thickest. It tapers towards the base, and the arm-rest which acts mainly as a tie, bracing the front leg to the back, is also tapered. This makes the bending process easier. It should be noted that in some cases a wood form, apparently of bentwood, is in fact a series of shaped and jointed solid wood sections—a process adopted when the selected wood is unsuitable for bending, see 2, 4, 5 and 82.

24

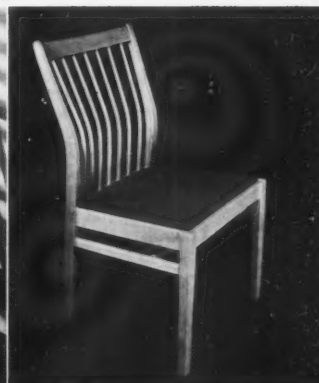
25

26

24 Scandinavian designers have revived the bentwood technique. Here a stout leg section is reduced where bent into an arm-rest. Chair in red beech; designer, Axel Larsson (Sweden) for A.B. Svenska Möbelfabriker.

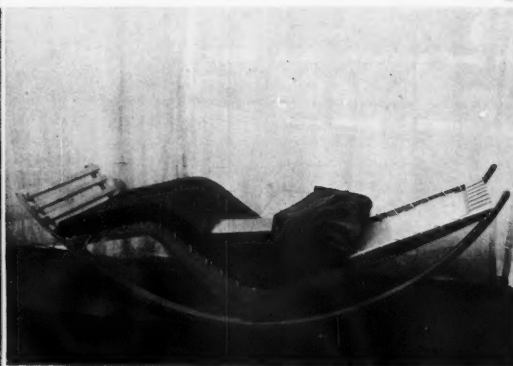
25 The traditional Windsor chair has always been a model for contemporary designers. Here, back and legs are in the simpler modern idiom. Chair in beech; designer, Ian Henderson (Great Britain) for Story & Co.

26 Another Scandinavian example, the result of a monumental enquiry into sitting postures by Dr. Aberblom. Apart from curved bentwood backs the designs are conventional. Chair in birch; designer, Gunnar Eklöf (Sweden) for the Swedish Co-operative Society.



27 Bentwood furniture is normally made from one of the few pliable straight-grained woods. Here bamboo slats are bent for the seat and set in laminated bamboo frames. Chairs, designed and made by the Industrial Arts Research Institute, Ministry of Trade and Commerce (Japan).

28 The long curved rockers, held in position at the two ends and the base of the seat unit, is an ingenious construction and a fresh and effective application of the bentwood technique. Reclining chair; designer, Franco Albini (Italy).



WICKER Rattan is a form of cane in its natural state, whether used as a tube, as sections sliced from the outer rind or from the inner pith. Cane or wicker furniture is therefore a form of 'solid' wood furniture. In use it is akin to bentwood, except that it can be bent even more easily and with no loss of strength. As it is also extremely light in weight, it is possible to use two lengths in parallel for strength, together with a number of cross-braces, and still produce a light-weight piece of furniture. All designs shown, except one, are built up from round section cane, which has been bent, pinned and bound in position. The exception, 29, is framed in wood and in the manner of a wood chair, and therefore bears no family likeness to the all-cane examples. It is one of the very few instances of a break with a wicker furniture tradition that has grown up over the last half-century. Apart from the main framing, three different methods have been used for the subsidiary structure. The chairs shown in 30 and 32, right, are in the fully woven technique, woven on a warp of narrow-gauge canes. The other examples in the group, 32, are made with thicker canes, tied rather than woven, while the third technique is the entirely different one illustrated by 31. Here a long length of cane is formed into a series of multiple loops within the framework and bound at frequent intervals.

29

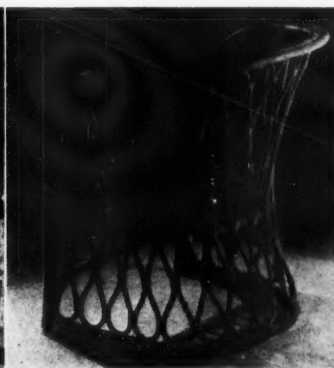
30

31

29 An ancient technique combined with a wood frame of a rather novel construction. Chair in wicker; designer, Franco Albini (Italy).

30 One of the three forms of wicker structure; the close-woven technique, used with narrow section canes for seat and back. The main framing can be bent to almost any curve. Chair in wicker; designer, Emile Seigneur (France).

31 This technique is much older and less flexible. It consists in forming a complete or part circle for stability, looping medium section canes and tying the loops and cross-overs together. Chair; designer, Jorgen Rohweder (Denmark).



32

33

32 This group shows the variety of design possible with wicker, but also the inevitable similarity due to the inherent limitations. The second chair from the right shows another technique where weaving is dispensed with by using thicker section canes. These are tied together at intervals, resulting in a more open type seat. Designer, W. Frey (Switzerland) for Rohrindustrie.

33 The trolley shows more clearly the structural ties and the number of separate parts necessary for rigidity in wicker design. The overall effect is nevertheless one of simplicity and clean lines, a factor that has undoubtedly led to the revival of interest in wicker during the last thirty years. Designers, Dryad Handicrafts (Great Britain).



PLYWOOD The development of synthetic resin-bonded plywood has done no less than revolutionize the art of furniture making. It has given the manufacturer a material suitable for quantity production, and the designer one with entirely new qualities and opportunities. The illustrations 35 to 38, and in part 34, show the treatment of plywood in sheet form, with no other manipulation than cutting. For 38 three-ply sheets have been used in the simplest way. In this form plywood is not a rigid material and its uses, structurally, are limited. 36 has sides cut from plywood, sufficiently thick to be rigid for the area required, a form quite unsuited to solid wood. 35 follows this a step further, the rigid members being cut as if from a magical form of solid wood. The plywood used for 34 and 39 consists of dozens of layers of veneer, bonded together under enormous pressure into a homogeneous sheet. The strength of this material is evident from the slender lines of 34. The next examples show the application of bending and moulding. A straightforward bend is the simpler of the two processes, illustrated by 39, 41, 43, 44 and 48. A step beyond this stage appears in 42, where a wider radius bend and a cleverly cut-out shape forms the equivalent of a moulded shell. The cupboard unit, 47, is even more interesting, for its case, except for doors and ends, is formed in one piece by a technical process only available in this country. The fully moulded shells, 45 and 46, require a more complicated 'building-up' technique, though 46 clearly has assumed a form (it has a cut-out as in 42) natural to the shape of a seat and back made from a thin pliable sheet.

34 Multi-ply was developed during the war for aircraft propellers. This form of plywood enables back legs and rail of this chair and front leg and side each to be made in one piece. Chair in mahogany faced plywood; designer, Basil Spence (Great Britain) for Morris of Glasgow.

35 This design would be practically impossible in solid wood. Chair in birch plywood; designer, Neil Morris (Great Britain) for Morris of Glasgow.

36 If the sides were of solid wood the grain would have to run from front to back, so that the back supports would inevitably be weak. Designer, A. Brodovitch (USA).



37 The multi-ply construction of this table-top is immensely strong. Its edges are cut to display the structure. It can be shaped without fear of fracture. The assembly is conventional. Table in plywood; designer, Neil Morris (Great Britain) for Morris of Glasgow.

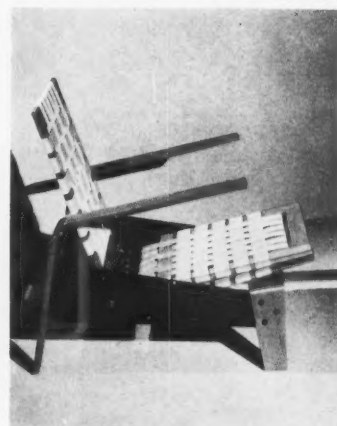
38 Standard three-ply sheet as used here requires support at the corners, unless the surface area is small. These tables will stand on each other to make a three-tier piece of furniture. Tables in birch and mahogany plywood; designer, V. Magistretti (Italy).



39 This rather complicated-looking design is simple in construction. Sections of bent plywood sheet form the frame, legs and arms from four members, screwed together. Careful design of these shapes avoids waste of material. Chair in birch plywood; designer, E. Eiermann (Germany).

40 Gentle bends can be made in plywood sheet to form seats and backs of chairs—the way this material was originally used. Chair in birch plywood; designers, A. and I. Tapiovaara (Finland), produced in Great Britain by Morris of Glasgow.

41 The possibilities in bent plywood taken a step further. Two sections of plywood are employed with simple bends, and covered in sponge rubber. Chair in plywood; designer, Alvin Lustig (USA).



PLYWOOD

42 In this chair, seat and back are made from one piece of plywood. The hole cut at the base of the back makes the shape possible. Chair in mahogany faced plywood; designer, Ray Komai (U.S.A) for J. G. Furniture Co. Inc.

43 This combination of laminated framing and simple, curved plywood panels has resulted in a rather complex construction. Chair in birch plywood; designer, Hans J. Wegener (Denmark).

44 Eight separate pieces of bent plywood are used in this experimental design, using a form of structure more appropriate to solid wood. Chair in birch plywood; designers, B. and J. Johansson (Denmark).

45 A fully moulded plywood seat and back section on a bentwood frame. Chair in walnut and walnut plywood; designer, A. Larsson (Sweden) for A.B. Svenska Möbelfabriker.

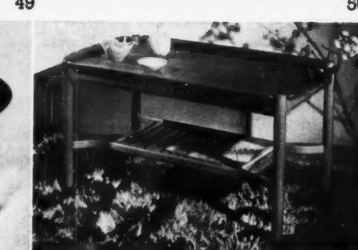
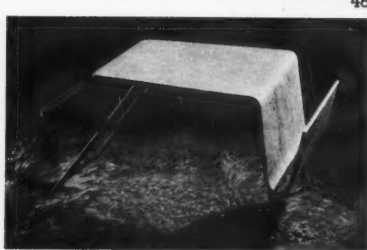
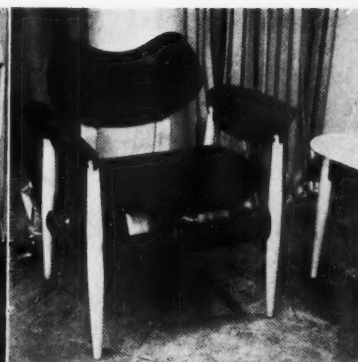
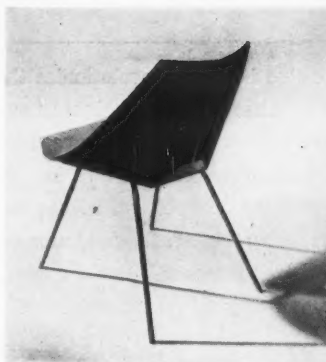
46 Moulded plywood chair, showing the flowing shapes permitted in this technique. Designer, Eero Saarinen (U.S.A) for Knoll Associates Inc.

47 Bent plywood adapted most successfully for storage units, with back, upper and lower sides in one piece. Designers, Clive Latimer and Robin Day (Great Britain), made by Heal & Son.

48 Plywood sheet bent to form a small table and rack. Designer, Giorgio Ramponi (Italy).

49 A moulded plywood table-top on a metal frame and legs. Designer, Charles Eames (U.S.A), made by Evans Products Co. and Hermann Miller Furniture Co. Inc.

50 Cutting out the corners of this table-top simplifies bending. Designer, David Rosen (Sweden) for A.B. Nordiska Kompaniet.



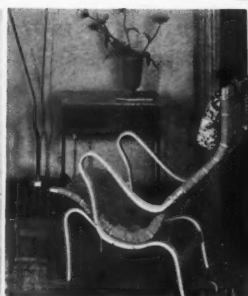
LAMINATED WOOD Since, in laminated wood, the grain of each lamination runs the same way, it is an extremely strong and resilient material when made up in narrow strips. It is particularly useful for forming the structure of chairs, and it can, moreover, be built up into acute bends that are far stronger than equivalent bends in bentwood would be if indeed they were possible. This strength in the bends was adapted in a clever and economical way by Alvar Aalto, 51, by inserting strengthening laminations in a solid wood member at the part to be bent. Fully laminated strips are more normally used, and the multi-curved shapes possible with this technique are well illustrated in 52, where the leg framing, the arms and the seat are separate parts, and in 54 where each leg and arm is in one piece. The fourth example illustrates a more complicated laminating process which is very ingenious. Each complete side-piece is made as a unit. The laminations are sliced lengthwise, the outer strip being bent in one direction to form the arm and the inner strip in the opposite direction to make the seat frame. The legs which have cores are then laminated on to the seat frame in the same way that the handle is attached to the frame of a tennis racket.

51 One of the few post-war designs by Alvar Aalto: chair in birch.

52 A laminated wood variation on earlier models. Designer, Bruno Mathsson (Sweden) for Karl Mathsson.

53 Laminated strips are cut lengthwise and bent in several directions. Designers, Peter Hvidt and Molgaard Nielsen (Denmark) for F. Hansens Eftl.

54 The legs and arms, made in one piece, demonstrate the sharp bends possible with laminated wood construction. Chair; designer, Eero Saarinen (U.S.A) for Knoll Associates Inc.



METAL As a furniture-making material, the scope of this classification should in theory be as large, including tubular metal, as all the foregoing applications of wood and wood types put together. The term 'metal' includes a variety of different kinds of metal and a variety of forms in which these are available. That it is not so large is due mainly to reasons of tradition, but there are also psychological reasons on the part of users, that tend to confine metal to furniture for special purposes, such as offices and gardens, and exclude it from the home. In 57 the moulded aluminium shell is a technical means to an end and the use of metal is not apparent. The rocking chair, 55, has strip steel rockers, and the material is used honestly as the only material that would do this job in this way. 56, 59, 60, 61 and 63 are clever designs that employ, respectively, steel rod, cast aluminium, aluminium alloy pressings, steel wire and square-section channel steel, each in their own way and most successfully, for all are good designs in terms of the properties inherent in the material used. The points of interest in 58 and 62 concern the structure; the method of assembling the legs and shell in the first, and the original idea in the second. 64 and 65 are variations on 56 and 63, while 66, combining aluminium sheet and veneer, is remarkably ingenious, since the process was devised at a time when very few materials were available.

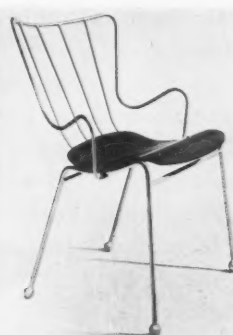
55 A form of metal, rarely used for furniture, is the strip steel from which the rocker legs of this chair are made. Designer, Gordon Andrews (Great Britain).

56 A chair of minimum bulk achieved by using bent steel rods with a moulded plastic seat. The springy steel imparts a 'cushioned' effect. Chair in steel rod and plastic; designer and maker, Ernest Race (Great Britain).

57 Aluminium sheet is used for the shaped base of this chair seat. Compare this technique with 46 and 78. Designer, Dennis Lennon (Great Britain) for the British Rayon Federation.



55



56



57

58 Another way of using aluminium sheet for chair seats. The leg mounting is an original method, the legs being bolted to a fin beneath the seat. Designer, Peter Moro (Great Britain).

59 Cast aluminium used for the legs, back, arms and frame of this chair has been employed successfully for a range of furniture by this designer, primarily as a substitute for wood. Designer and maker, Ernest Race (Great Britain).

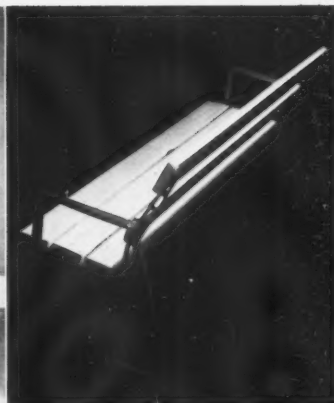
60 This terrace-seat has a frame of aluminium alloy pressings—yet another adaptation of this many-purpose metal. One of the few metal furniture designs from Scandinavia. Designer, Gunnar Eklöf (Sweden) for A.B. Pumo.



58



59



60

61 Adjustable bookshelves in sections, constructed from plastic-covered steel wire. This technique offers many possibilities on the lines of aircraft construction for lightweight structures, and compares with 56. Bookcase in steel wire and mahogany; designers, K. and N. Strinning (Sweden).

62 A very unusual form of bookshelf consisting of a central metal column, to which is attached adjustable metal brackets carrying square shelves with back and side supports. The column is braced between floor and ceiling. Designer, Otto Kolb (Switzerland).

63 The framework for this bookshelf in S. Africa's London travel centre is of square section, welded, hollow bronze bars, with glass shelves and mahogany end wall. Designers, James Cubitt and Partners and S. Kadleigh (Great Britain).



61



62



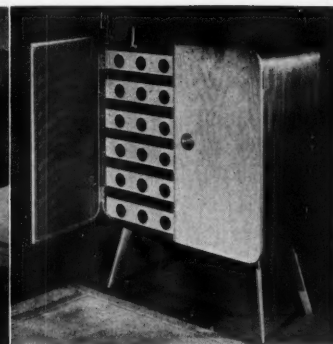
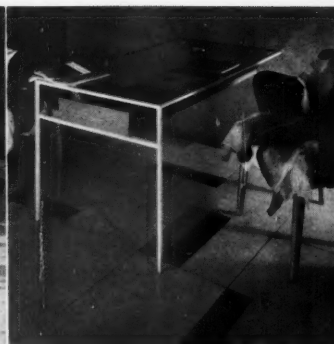
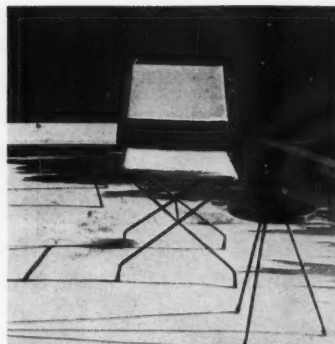
63

METAL

64 The use of metal rod here suggests the contemporary equivalent of wrought iron in a very simplified form. Designers, B. Flagg and K. Stewart (USA).

65 Square section metal is used for the legs, and angle metal for the top framing. The wood shelf helps to brace the structure which is attached to the wall. Designers, James Cubitt and Partners and S. Kadleigh (Great Britain).

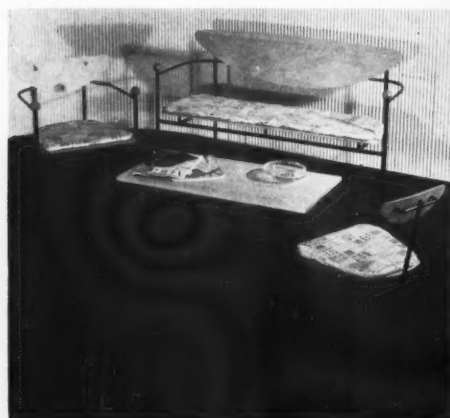
66 Aluminium sheet faced with wood veneer makes a very pliable decorative material. The shell is curved in one piece. Designer, Clive Latimer (Great Britain) for Heal & Son.



TUBULAR METAL This particular form of metal has been given a section to itself, first because practically all new furniture forms can be traced to the initial stimulus of the tubular metal chair designs that came from the Bauhaus, and secondly, because far more metal furniture has been produced in this technique than in any other. It is apparent at once, in most of the examples, that by using tubular metal, whether steel or aluminium, material bulk can be avoided most easily. This quality stands out particularly clearly in such contrasting designs as 68 and 72. It is also apparent, however, that tubular metal is only suitable for framing, and consequently must always be used with some other kind of material for seating or other necessary surfaces. Another point of interest is that though tubular metal is frequently utilized for its natural 'springiness,' it is also used for its rigidity. Contrast 68 and 74—which are extremely 'natural' designs and therefore all the more competent—with 71 and 73. The latter two are designed as rigid chairs. There is a feeling of awkwardness about both, even in the simple form of 71; they each lack the easy sophistication of the other two. 73 in particular seems a rather unwieldy means of attempting the moulded form that is more natural to plywood and plastics. It also possesses, to a much greater degree, just those elements, referred to earlier, that have fostered the psychological antipathy to metal furniture. In contrast, 75 achieves the same object as 73 with remarkable assurance, despite quite an involved arrangement of angles and bends.

67 The framework in settee, chairs and table is of narrow section steel tube combined with plywood sheet. Tube is used in short sections, welded together as a rigid structure instead of the more usual manner of 71. Designer, Dennis Lennon (Great Britain).

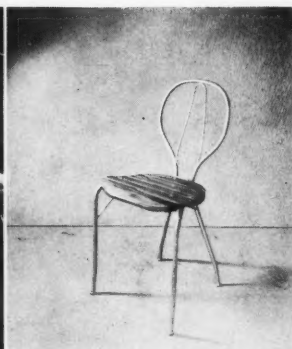
68 The tubular metal technique led to greatly simplified chair construction, since bending was an easy and suitable process. This deck chair design is one of the simplest and most satisfactory of its kind. Designer, Rudolf Ruetschi (Switzerland) for Suter und Strehler, Zurich.



69 The coldness of steel tube was one of its main disadvantages, i.e., one of texture and finish rather than of form or structure. This chair design neatly avoids the issue. Designer, George Nelson (USA) for Hermann Miller Furniture Co.

70 A chair in galvanized steel tube with a hinged seat of oak slats, designed for stacking. Designer, Tore Ahlsen (Sweden) for A.B. Lamhults Möbler.

71 Tubular metal is ideal for this type of seat where one length of tube can form legs and frame. Designers, E. Bartolucci and J. Waldheim (USA).



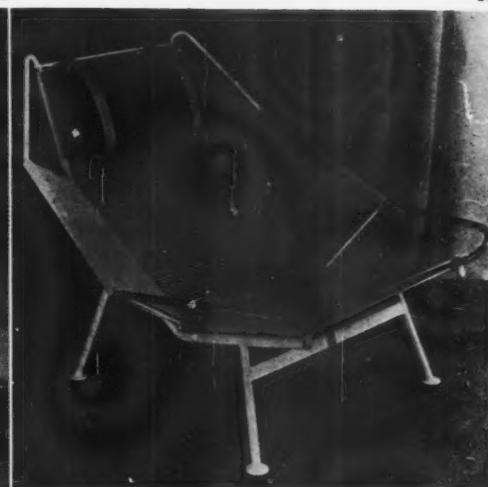
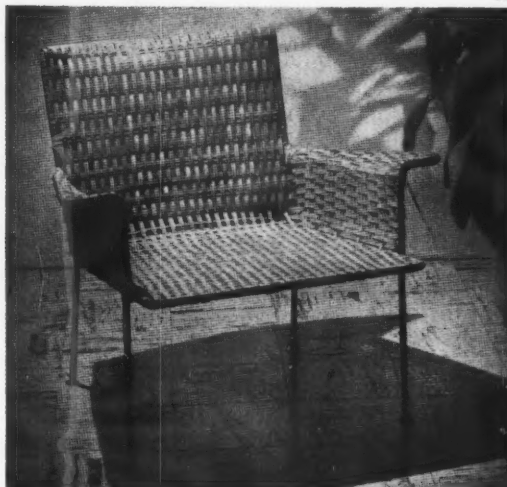
TUBULAR METAL

72

73

72 The combination of a steel tube frame and a woven wicker seat is unusual, though by no means incongruous. The structure is of the rigid rather than the 'sprung' type and makes an excellent lightweight chair. Designer, Van Keppel-Green (USA).

73 A chair design in steel tube and cord that is out of the normal run of contemporary Scandinavian furniture. The steel structure has had to be made complicated to brace the cord to the desired shape. Designer, Hans J. Wegener (Denmark).



74

75

74 The clever but simple cross-over arrangement of metal tubes in this chair forms an interesting structural pattern, besides providing adequate stability and suitable suspension points for the leather seat. Designer, Ferrari Hardoy (USA) for Knoll Associates Inc.

75 A tubular metal chair made from two lengths of tube, incorporating a most involved series of bends, but which in spite of this gives an impression of simplicity. This design makes an interesting comparison with 73 in this respect. Designer, Paolo A. Chessa (Italy), made in USA by J. G. Furniture Co. Inc.



PLASTIC The development of plastics in furniture is at an early stage, and these examples are first experimental steps in the exploration of a new furniture material. Examples 79 and 80 show sheet plastic in its simplest application—as an alternative to plywood or veneer. Certain plastics possess a hardness, which makes them very practical for any surface liable to burns and stains. In 81 these characteristics are combined with a printed decoration applied to the top layer or ply. In the chairs, the designers have begun to exploit the qualities of other kinds of plastic. 76 has slight curves in seat and back, both surfaces being relatively small in size, and made from a rigid plastic. The moulded chair, 77, is a much more ambitious design, and its production would be a far more complicated and expensive process. The interest of 78, apart from the use of the moulding technique, lies in the application of fabric to both surfaces, which overcomes any psychological disadvantages in the structural material.

76

77

78

76 Plastic sheet used as an alternative to plywood for seat and back on a tubular metal frame. Designers, Clive Latimer and Nigel Walters (Great Britain) for H. C. Sheppard & Co.

77 A chair unit moulded in one piece, comparable with moulded plywood as in 45 and 46. Designer, Charles Eames (USA) for Hermann Miller Furniture Co.

78 'Fibrenyle,' a pliable form of plastic moulded to form the single sitting unit of this prototype chair. Designer, Dennis Young (Great Britain).



PLASTIC

79 The neat face of this drop-leaf writing desk is of rigid plastic sheet. Designer, Johannes Krahn (Germany) for Kaufhaus Hansa.

80 The extreme hardness of certain thermo-setting plastics renders them impervious to burns and stains. Designer, George Nelson (USA) for Hermann Miller Furniture Co.

81 Printed designs can be incorporated in the top layer of 'Formica' plastic sheets. Unit cupboards; designers, Neville Ward and Frank Austin (Great Britain) for Scottish Furniture Manufacturers Ltd.



UPHOLSTERY The use of rubber, in the three forms of sponge, moulded rubber and rubberized hair, has had more influence on the design of upholstery than any other factor. It has by no means superseded the use of steel springs, and has, in fact, stimulated the development of new types of springs, which are more easily adaptable to the freer shapes now associated with the use of rubber. 82, for example, has transverse tension springs with a padded overlay for the back, which could be hair or rubberized hair. 83 is filled with compression springs and a hair overlay. In 84 springs are combined with a sponge rubber overlay, the springs being of a new type that follow the shape of seat and back. The other illustrations, 85 to 89, beginning with 86, show the development of sculptural forms in upholstery itself, which are beginning to take this type of furniture beyond the conventional shapes that have persisted in upholstery longer than with other types. It is not possible to give the upholstery technique in every case, but the examples speak for themselves.

82 Easy chair with tension springing and compression sprung cushion. Designers, Maurice Russell and Geoffrey Dunn (Great Britain) for Dunn's of Bromley.

83 Chair with compression springs and hair upholstery of the conventional type. Designer and maker, Ernest Race (Great Britain).

84 Unit chair sprung with longitudinal zig-zag springs arched and fixed direct to the plywood shell at front, centre and top. A sponge rubber overlay is fitted over the springs. Designers, Saarinen and Eames (USA).



85 Contemporary form in upholstery has only slowly evolved from the traditional. Settee; designer, Eero Saarinen (USA) for Knoll Associates Inc.

86 Of a more conventional form, this settee is good of its kind. Designer, Howard Keith (Great Britain) for H. K. Furniture, Ltd.

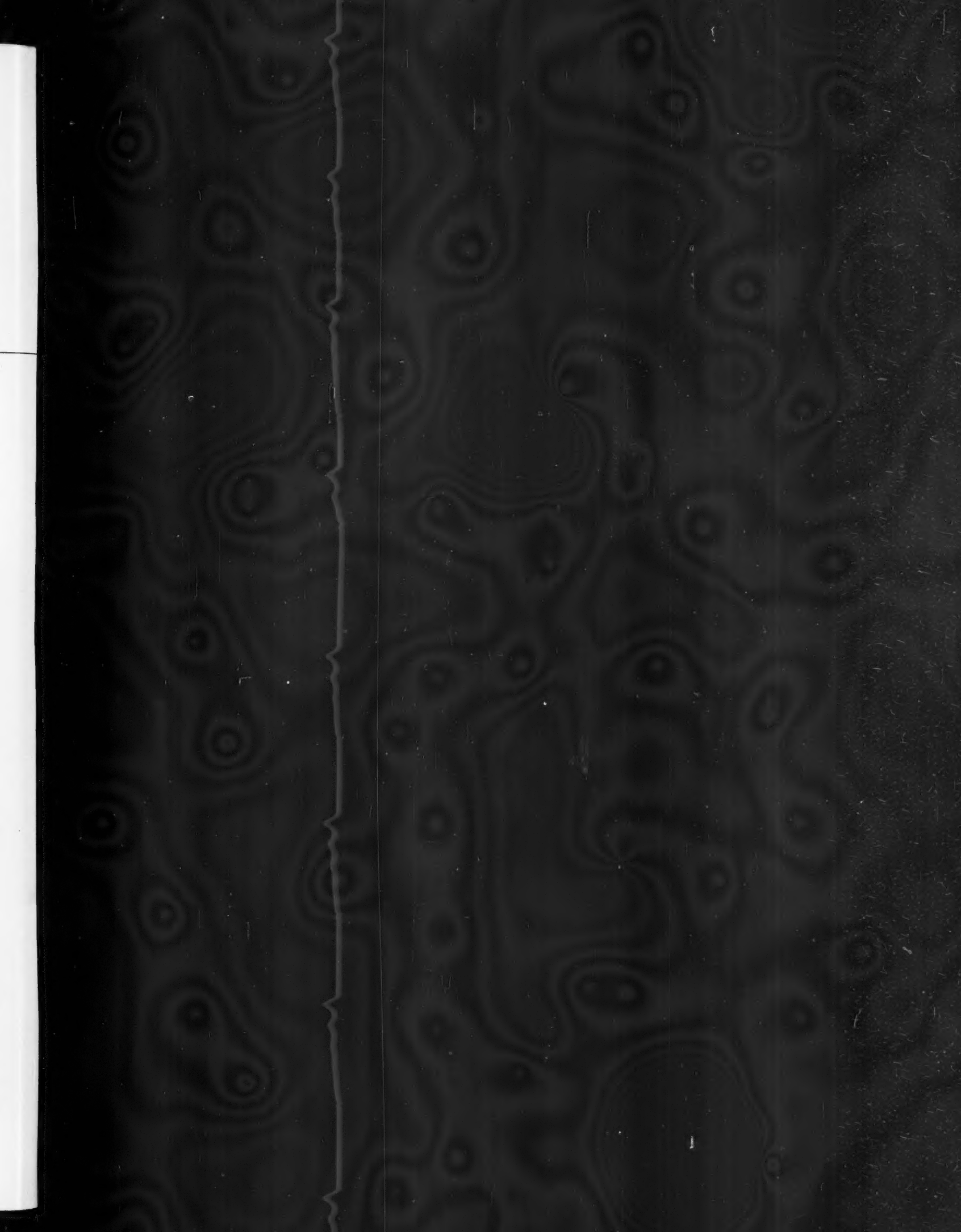
87 The beginnings of a sculptured form are apparent in these curves. Designer, Axel Larsson (Sweden) for A.B. Svenska Möbelfabrikerna.



88 A freer form is also introduced into this curved settee, a step that is parallel to that evident in the preceding example. Designer, H. Bellmann (Switzerland) for Wohnbedarf AG.

89 The sculptured effect is even more pronounced in this plywood framed settee. The freedom of form is made possible by new techniques of upholstery with sponge rubber and new types of springs. Designers, Architects Associated (USA).





equal strength in both directions, unlike natural wood which is strong along the grain, but weak across it, so for a similar strength, plywood requires less weight and bulk.

The type of adhesive used to bond the plywood has a bearing on how it can be used afterwards. Casein cement, which is used cold, was developed to replace animal glues because of its waterproof qualities, but it is now rivalled by the synthetic resins. Of these, phenol formaldehyde requires heat, and since subsequent heating does not affect it, it is very suitable if the plywood must be heated for bending. Urea formaldehyde, on the other hand, can be set hot or cold and therefore is more adaptable for shapes requiring complicated bends. It is not so strong as phenolic resin, but is cheaper. Blood albumen is another type of adhesive which withstands humidity better than casein, but is not so adaptable as it requires heat. The synthetic resins are the only adhesives that withstand bacteria, because the heat and pressure bond the resin and the wood into a homogeneous material.

The types of wood suitable for plywood are limited to those that are pliable and relatively free from knots, but above all they must be available in large quantities, with fairly straight trunks and of suitable sizes. Plywood manufacture requires a lot of capital equipment which has to be fed continuously to be economic. The woods that best meet these requirements are birch, gaboon, pine in Sweden, and Oregon and Columbian pine in North America. Alder is also sometimes used. The facing ply can, of course, be almost any wood veneer, as quantity is then not such a problem.

Plywood can be bent either by building up the glued veneers successively in a mould, applying pressure and leaving them to set, or by bending the plywood sheet after steaming or soaking and setting it in the mould under heat. This second process is only possible with resin-bonded plywood which is not affected by the steam and heat. The sheet can be cut in such a way that what might be termed a 'simulated' moulded form is possible, by bending it subsequently in a variety of directions.

Moulded forms with full curves in more than one plane are not possible from a flat sheet of plywood, so that the plywood needs to be built up from glued veneers. A mould is made of the required shape, and sheets of veneer, already glued, are cut to shapes determined beforehand from a mock-up, so that each sheet of veneer will follow the curves but not overlap on itself. When the veneers are assembled they are put into an airtight rubber bag and the air pumped out, so that the vacuum, thus created, produces an even pressure over the whole outer surface, pressing the veneers against the mould. The whole contraption, bag and all, is then heated in a cylindrical oven, called an 'autoclave,' and pressure is applied. It is also possible to use cold-setting synthetic resins in much the same way, provided the shape to be moulded is fairly small.

laminated wood

Laminated wood, not to be confused with laminated board (which is not used for furniture), combines the idea of plywood construction with that of bentwood. Several thicknesses of wood are glued and clamped together till the glue sets, and this results in a structure stronger than the equivalent thickness made from the solid. Laminated wood differs from plywood in that the grain in all the laminations runs the same way—lengthwise. The greater strength is therefore in one direction only, for that of the width is not increased. The strips of wood used for lamination are normally thicker than for plywood.

It is of no value for board, but it is extremely strong and pliable when it is used like bentwood; in fact, it can be used for complicated bends and shapes quite impossible with bentwood. It has also a springiness which can be used without fear of a fracture, as indeed Alvar Aalto used it originally to make a chair form without back legs, in the manner of a tubular steel chair. The process has only been developed in the last twenty years, but already it is displacing bentwood

because of its greater strength, and in spite of its greater cost of production. The bending can be done in one of two ways. The first is to make it up as straight laminated strip and then bend it. Only gentle curves are possible by this method unless the bend does not have to take a strain, as it would in a sprung chair leg. Then it may be saw-cut in several places through part of its thickness inside the curve, to allow it to bend more easily, though this obviously weakens it at that place. The second way is to build it up in a former, each lamination being glued and then bent to shape. The whole piece is then clamped under pressure in the former till the glue sets.

One of the cleverest adaptations of the lamination method was used by Aalto in his Finmar stacking stool. He wanted a robust leg with a right-angle bend. Lamination is a fairly expensive process, so a fully laminated leg was too costly and the solid wood was too thick to bend satisfactorily without loss of strength. So he used a solid leg, and incorporated partial lamination by putting a number of saw-cuts parallel with the grain and to varying calculated depths, according to their position in the bend. The cuts were then fitted with thin strips of glued wood and the bend made. The result was a solid leg with a laminated bend that was stronger than the leg itself, and much easier to work.

For the laminated Finmar furniture, a casein cement is used, and the wood is bent cold, but the synthetic resins are more normal for this type of work owing to their enormous strength and their resistance to humidity and insects. Laminated wood, like plywood, has the advantage over solid wood of being far more suited to machine techniques, though it does not have to be produced in quantity. The weaknesses and imperfections of the solid wood are redistributed, and it is possible to use timber of a quality and in short lengths that would otherwise be of use only for firewood.

metal

Apart from their use as tubes, metals can be used in solid form in a variety of ways, either worked from rods or cast in moulds, though this latter method is normally excluded in the case of steel, because in furniture manufacture it would not be economic. These categories also include the working of wrought and cast iron.

The rods, for example, are used for extruded sections which can be made into almost any shape by forcing the rod past a specially shaped die. The same process is used for making tubes, and results in a continuous strip of metal formed into a section of whatever shape is wanted. This process is roughly equivalent to forming wrought iron, for the essentials are pressure and sometimes heat, in the same way that the blacksmith heats the iron and then beats it into shape with a hammer. In comparison with tubes, smaller diameters of solid metal can be used, though naturally, as these reduce in diameter, they reach a point where they cannot equal the straight tube for rigidity unless in section they are 'L' shaped, or in the form of an arc. This applies equally to steel and aluminium alloys, though complicated sections are not possible with wrought iron. The first, in a narrow section, becomes springy while the second is more rigid.

Solid section metal of all kinds can be bent in far more complicated ways and in far smaller radii than tube, and is therefore more flexible in use—the smaller the diameter the greater the flexibility. The smallest are produced by the various processes of wire-drawing. Casting is another matter, for it enables an almost unlimited variety of shapes to be made which are quite impossible by any other method.

In casting, molten metal is poured into a casting box full of sand, in which an imprint has previously been made by pressing a wooden mould into it. Alternatively, a mould can be formed in steel to the necessary shape. The sand method is used for small quantities since a new shape has to be pressed each time, but a steel mould is used where large quantities are required. If hollow shapes have to be made of any length, it is necessary to mould them in two parts

and then join them together. Cast aluminium alloy has the advantage over iron in that the join can be welded, whereas iron has to be bolted.

Steel and aluminium alloys are also available in sheet form. Sheets can be shaped in a number of different ways, aluminium being more adaptable than steel, particularly for small quantities. Both can be shaped in two planes quite simply by turning down the edges. More complicated shapes can be formed by cutting out patterns in the flat sheet, bending them and spot- or seam-welding the overlapping edges, just as children make boxes with paper and paste in the kindergarten. If, on the other hand, a formed chair seat is required with a combination of convex and concave shapes, the only possible process with steel sheet is a stamping or pressing, requiring a press and machine tools which are very expensive and an output of thousands to make them economic. In contrast, aluminium alloy sheet, because it is softer, can be worked by hand over a former. It can be spun into a bell-like shape, or it can be shaped on a stretch-forming machine, which pulls it into shape over a former, almost as a hand fills out a glove.

tubular metal

The influence of tubular construction on furniture design has been greater to date than even plywood, if we exclude carcass furniture, since both plywood and laminated chairs and tables have followed the ideas worked out for tubular steel. Steel and aluminium alloy tubes can be used as straight members or bent, but it is in the ease of bending and the inherent lightness and strength of the bent tube that their more important qualities lie.

The bending process is quite simple. A mandril or steel rod of a thickness sufficient to give a fairly tight fit is inserted into one end of the tube, up to the point where the bend is to be made. Tube and mandril are then clamped in a bending machine—a sort of vice—and the free part of the tube is literally yanked into the required bend either by hand or by machine. The bending is done cold in most cases, though for a small radius, and depending on the diameter of the tube, heat softening may be necessary.

Aluminium alloy tubes, which are either a combination of aluminium and copper, or aluminium and magnesium—the latter being a wartime development of the aircraft industry aimed at a very high strength to weight ratio—are manipulated in the same way. Like steel tubes they are cold drawn and seamless, and are obtainable in various sections from circular and oval to square. These different sections can all be bent in the same way. Alloys have a higher coefficient of expansion than steel, and the possibility of distortion is therefore greater, but in normal conditions this factor does not present a serious disadvantage. Joints are welded with an oxy-acetylene flame whether they are end to end, or right angled. This involves the introduction of filler metal of a similar but softer type where the two parts meet, though two sections can also be joined end to end by the flash and resistance method of welding, thus forming a continuous tube.

plastics

There are many different kinds of plastics, but basically they can be divided into two types. Thermo-setting plastics, that are moulded from powder, undergo chemical change due to the enormous heat and pressure applied in the moulding process, and subsequently cannot be altered in shape. Radio cabinets, car dashboards, ashtrays and a multitude of consumer and industrial goods are made in this way. They can also be used in the liquid form of synthetic resin. Thermoplastics, the other type, do not undergo this chemical change, and can therefore be softened and reshaped after the plastic material has been formed by extrusion, for instance, into rayon, or into tubes and rods, or by rolling into sheet. The sheets can be heated and shaped over a former, or, in the case of perspex, blown up like a balloon to make a kitchen sink or an astrodome for an aircraft.

The impact of plastics on furniture design has, up to now, been relatively small, except in its form as synthetic resin, where it has been enormous. A large thermo-setting moulded shape, say a chair seat and back, would require an output of tens of thousands to offset the high cost of the mould, and the need to keep a press of some 1,500 tons pressure in continuous operation. A similar shape in a thermoplastic could be produced over a former much more cheaply, but could only be made in a transparent or translucent material due to the character of this type of plastic. Moreover, it would not possess the hardness and resistance to scratching and heat that is one of the main advantages of the thermo-setting plastics.

Synthetic resins, on the other hand, and in this context we need only consider the thermo-setting type, are the basis of all forms of lamination. Their most usual application is to plywood and laminated wood construction, which have been dealt with already. It may be used as an adhesive, added wet between each sheet, or alternatively the sheets, if they are not too thick, may be impregnated with synthetic resin, dried and stored till they are needed for the press. But many other variations are possible. Paper and fabric, impregnated with synthetic resin, can both be used to produce homogeneous laminated material to make sheets, tubes and rods of extreme toughness, and of a lightness half that of aluminium, but which can nevertheless be worked quite easily with normal wood-working machinery. Great pressure is required, but they can be cold set or hot set according to what is required of them, the latter method producing the harder material. In either case the result is a complete fusing together of material and synthetic resin.

Laminated sheets of this type are being used extensively for flat surfaces such as table tops and cabinet fronts, partly because of their resistance to burns and liquids, and partly because all manner of decorative effects and colours can be produced in the outside lamination and made one with the whole panel in the pressing process. They have one more advantage: although they are thermo-setting, the hardening process can be arrested temporarily, so that the laminated sheet can be shaped cold over a former of light alloy or hardwood—both far cheaper than the steel former required in a moulding process. When the material is removed from the former it is nevertheless sufficiently set to undergo the final hardening process without further pressure.

upholstery

The traditional method of upholstering is to use coil springs, held in place in a wooden frame over which a padding of hair is laid. This padding has to be thick enough to prevent the individual springs from being felt through it. Upholstery of this kind involves a great deal of hand work and is almost impossible to do by machine processes. Before the war a new type of spring was being widely used. This was also a coil spring, but was used in tension and stretched from side to side of a chair. It was a far simpler arrangement, for with a loose cushion laid on top it was very accessible.

Hair, the traditional upholstery material, is now used in conjunction with rubber. When coated with a rubber solution, the resilience of the hair is greatly increased, and it can satisfactorily be used with thin cushions. It takes less rubber than the sponge rubber type of cushion described next, but is not so soft.

More recently sponge rubber, moulded in a honeycomb form, has been used extensively for both the backs and seats of chairs and settees, eliminating the use of springs entirely. This method, which depends partly on air cushions formed in the cavities of the honeycomb, involves none of the hand work required in assembling the traditional enclosed spring type, and it can be moulded into almost any shape required. The springiness varies with the shape of the honeycomb, the thickness of its walls and the distance between them. It is possible to vary the springiness in different parts of such a seat by varying the dimensions of the walls and cavities.

BUILDINGS IN NORTHERN RHODESIA

G. A. JELICOE: ARCHITECT

The development programme instituted since the war throughout the British Commonwealth has resulted in much building activity, largely designed and directed by English architects. The REVIEW has lately illustrated projects and completed work in the West Indies and hopes soon to illustrate some of the large quantity of work now going forward in West Africa. This month attention is directed to Northern Rhodesia, where Mr. G. A. Jellicoe has recently been responsible for a wide range of buildings. The article below describes the organization of the work and the conditions under which it is being designed and carried out. On the following pages are photographs and sketch plans of the buildings so far completed.



The architect was appointed as consultant to the Northern Rhodesia Government, to supplement the Public Works Department, for a period of three years or such extra time as might be necessary to complete works still in progress. He was to establish an office in Lusaka, the capital, and visit it personally twice a year. The office was opened in July, 1947, and closed in August, 1950, except only for the final completion of still outstanding contracts.

The basic programme consisted of a government residential hostel, the terminal buildings at Livingstone Airport, the Combined Hospital at Broken Hill, and an infant school in each of five separate towns. The consultant was also able to undertake private practice in Northern Rhodesia, and the chief works designed by him in this capacity were the Ridgeway Hotel, Lusaka, and blocks of flats for the British South Africa Company and the Farmers Co-operative Society. He was also responsible for a town plan for Lusaka, commissioned by the Management Board and approved by them in the spring of 1950; for reports on African housing (with special regard to the Congo), for the Northern Rhodesian Town Management Boards; on the siting of the proposed Victoria Falls Hotel, for the Northern Rhodesia Government; on the development of Chilanga, also for the Northern Rhodesia Government, and on the development of the Zambesi on the lines of TVA.

The buildings illustrated on the following pages are Livingstone Airport, the infant schools, and the flats.

Broken Hill Hospital will be complete by the summer of this year, and the Ridgeway Hotel by the summer of 1952. The total expenditure on executed works to date has been about one million pounds.

The distances in Rhodesia are so large, and transport so slight, that it was necessary to decentralize the architect's office in Lusaka and form executive offices at Livingstone, Broken Hill and Kitwe (the latter to serve four Copper Belt towns). There are three trains a week between these towns; the connecting roads are of earth and are sometimes impassable in the rainy seasons. The postal services are slow, but telephonic communication is not unreasonable. The distance from Lusaka southwards to Livingstone is over three hundred miles, and from Lusaka northwards to the furthest school, at Chingola, about two hundred and seventy miles. The use of air services within the territory proved impracticable, but were the normal means of connection between Lusaka and London. The organization by a London architect of a branch office in Lusaka would not have been possible before the days of air transport.

All materials not produced in the country have to come great distances by an inadequate railway, the cost being profoundly increased by this transport, and the uncertainty of arrival being proverbial. The main local building material is an inferior brick, finished with a rendered surface. Cement is short, and this will continue until the Government plant at Chilanga is in production. There is no indigenous

softwood timber, and the hardwood can only be used for special purposes. The normal roofing material is corrugated asbestos sheeting. Steel is in very short supply and, because of this, and because of inferior craftsmanship, most of the buildings have been constructed of solid brick and confined to one storey.

It has been said that the output of one European is equal to that of five natives. The proportion of European to native labour employed varied according to each contractor, but the bulk of the work on the buildings illustrated was done by natives, who are as yet incapable of doing other than straightforward simple building. Their incentive is not in terms of money but in leisure, which unlike most Europeans they enjoy to the full. The programme demanded more labour than could be supplied, and this shortage has remained acute.

The conditions the designer for Northern Rhodesia has to take into account are somewhat similar to those normal in tropical countries, except that the African plateau is over 4,000 ft., and the temperature in Lusaka rarely exceeds 90°. The chief points are* that buildings where possible should orientate east and west; windows should face north and south; protective eaves should be provided and protective measures for windows should be taken to avoid sun and torrential rain; internal cross ventilation must be provided; and, perhaps most important of all, protection given from eye-strain due to glare.

The prevailing architectural styles in Northern Rhodesia are mixed. The government buildings are substantial and well designed in red brick in the English Georgian-Dutch colonial style; there is a large amount of neo-modern American monumental shack style; some excellent bungalows evolved from local conditions, and at least one building, the silicosis hospital at Kitwe, by Messrs. Fleming and Cooke of Johannesburg, which is as interestingly designed and as carefully built by a local firm as any in Europe.

Instructions were received from the Director of Public Works, Mr. A. L. Simpkins, with whose office there was close liaison. The contracts of Livingstone Airport and Broken Hill were given to a London firm of contractors as part of a programme large enough to encourage them to establish a subsidiary office in



Lusaka, fully equipped with modern mechanical plant. They were on a 'fixed fee' basis. The five infant schools were won in competitive tender by local firms, whose standards can also be high, but whose productive capacity was limited and essentially related to the building capacity of the colony at that time. This capacity indeed was so slight that the single hospital project at Broken Hill in 1949 unhinged the building economy as a whole and created scarcity values, causing an abnormal rise in prices.

The following constituted the architect's Northern Rhodesian staff: resident architect, R. McKinlay; chief assistants, R. Rutherford, G. E. Coburn and I. G. Maclaurin; site agents, A. H. Lewis (infant schools), R. G. Curtis (Broken Hill); secretarial, Mrs. R. Curtis and Miss P. Simpson. Mrs. Margaret Rutherford assisted on planning; Mrs. Sheila Haywood paid two visits as general consultant, each of three months' duration, and Miss Mary Braendle one visit of three months' duration as planting and landscape consultant. Several of the architectural assistants named above, all sent from London, have now set up in private practice in Northern Rhodesia.

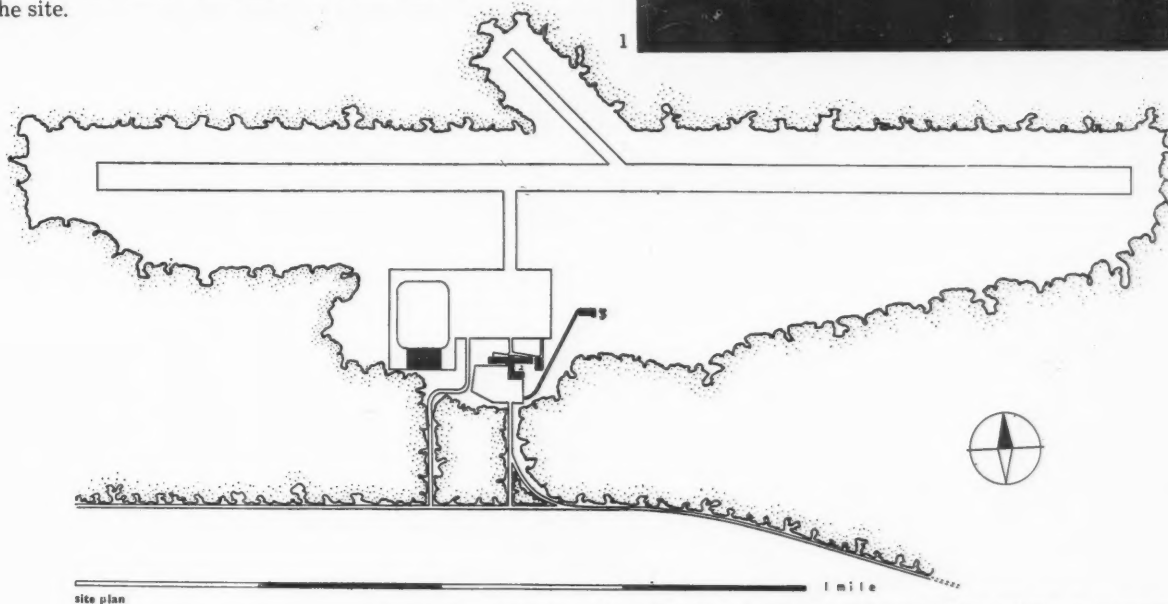
Each building or group of buildings was designed personally by the nominated assistant, the consultant acting as constructive critic during the progress of the design, either while in Lusaka or from London. Criticism from London meant four weeks' delay, and was reduced to the minimum. An exception was the experimental design of the screen in the lounge of the Livingstone Airport (see page 171), which was recognized to have some significance as a fusion of European and African arts; this screen was the combined work of many persons, including the African students at the Cyrene Mission in Southern Rhodesia, who made the paintings.

* See article by G. Anthony Atkinson, *RIBA Journal*, June 1950.

LIVINGSTONE AIRPORT

The new airport was opened on August 12, 1950, by the Minister of Civil Aviation, and is the largest and most up to date in Africa. The principal intention is to attract unlimited tourist traffic of all sizes to see the Victoria Falls, which are only a few miles from the airport, and the spray of which can be seen from the control tower.

The terminal buildings were originally designed as one unit, but subsequently, for technical reasons, were divided into a passenger block (below) separated by several hundred yards from the operational block (right). The latter includes the control tower, which had to be located at such a height and in such a place that clear vision should be given in all directions. Like the other buildings, its walls are of concrete blocks made on the site.

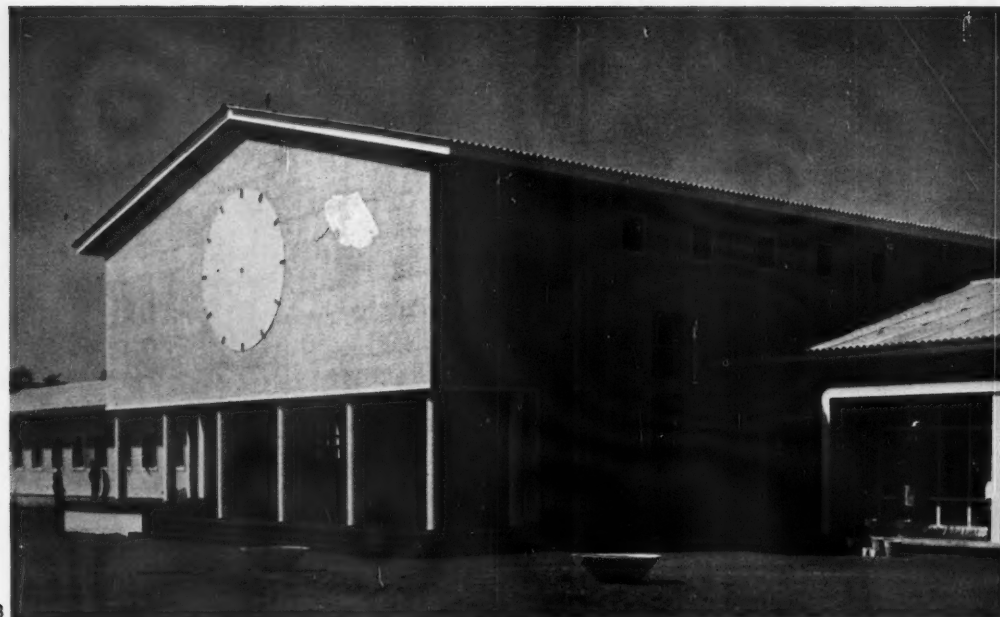


1, operational block with control tower and administrative offices behind. 2, passenger building seen from beneath a BOAC aircraft parked on the hard standing. The offices and customs are on the left, the concourse in the centre and the lounge, dining rooms and kitchens on the right. The colour is glacier blue.



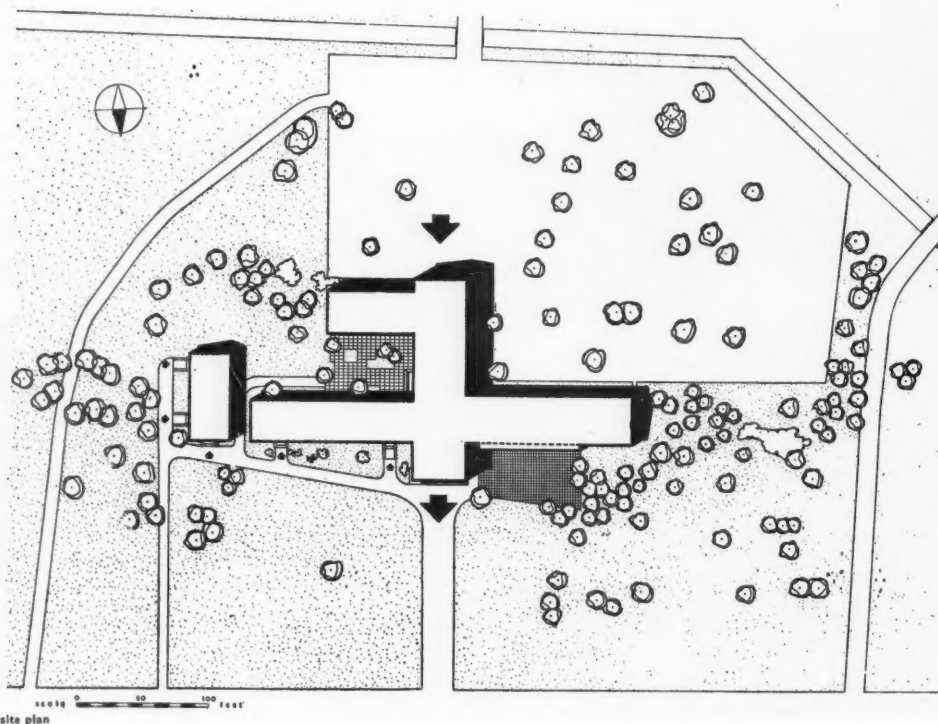
LIVINGSTONE AIRPORT

3



The passenger building is set back as far as possible among trees. It consists chiefly of one main hall with lounge and restaurant, and accommodation for customs control to deal with two incoming planes and two outgoing planes concurrently without strain. Being in the Zambesi basin, it is at times tropically hot, and is therefore designed throughout to be cool and restful, particular care being taken to avoid glare. Apart from the usual precautions, this is achieved by the use of toned glass for certain windows, by preventing a clear view of the sky, and by delicate shades of pastel colours, both internally and externally. The rendered wall surface is given an irregular texture by up and down movements of a sack, to soften the reflection of light.

The designer of the airport buildings, under the consultant architect, G. A. Jellicoe, was R. McKinlay, and the site agent H. Parr-Morley.



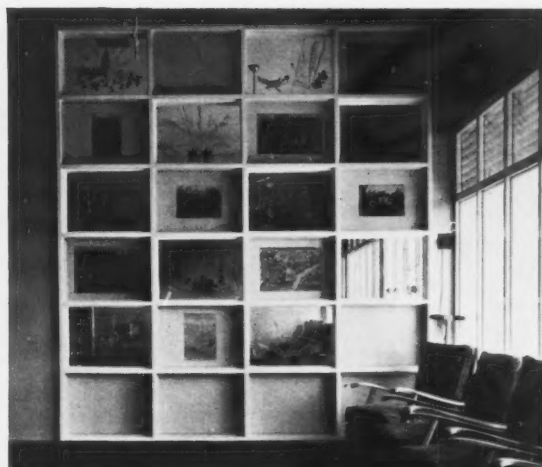
4



5



3, main entrance to passenger building. The clock face is repeated in the main hall. 4, detail of lounge and dining room windows, looking from the entrance portico. The deep canopies are a protection from glare. The planting in the boxes will throw a soft reflected green- or flower-toned light upwards on the ceiling. 5, interior of customs hall showing customs officers' counter. Walls and ceiling are in pastel colours and the counters dark brown with recessed yellow strips.



6 and 7, the African screen between the lounge and the restaurant in the passenger building, an experiment in combining native and European art. It is in three sections, each composed of alternating transparent and solid panels. In the transparent panels are dried flowers, leaves and grasses native to Northern Rhodesia, pressed between two sheets of glass. The solid panels contain paintings by African students at the Cyrene Mission School, Bulawayo; but it was not possible to have them made specially to fit the rectangle, nor did time allow for reconsideration of the flower patterns, which were arranged and installed in two days by Mary Braendle.

SCHOOL AT LUANSHYA

Five infant schools have been constructed (see map on page 168) at Luanshya, Broken Hill, Kitwe, Mufulira and Chingola, of which the first three are illustrated. They are for European children in the copper-belt towns and

8, entrance block containing staff rooms. 9, assembly hall. Steps are used to adapt the standard plan to a sloping site. 10, entrance for teaching staff. 11, covered way connecting classrooms.



8
9



10
11





12

13



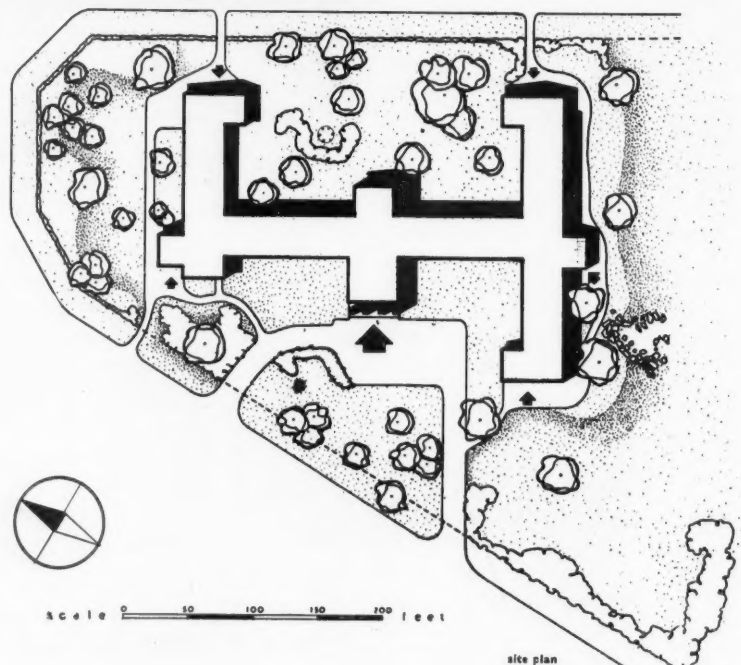
14



12, general view of the Kitwe school from the gardens. Existing trees were preserved with care and the garden is being laid out informally from plans deposited by the consultant architect. 13, entrance for infant boys. The proportion of void to solid has been designed to give a scale suitable for children. 14, a covered way.

SCHOOL AT KITWE

Broken Hill. They are all based on a standard plan presented to the architects by the Director of Education. Differences of siting caused minor variations in planning and in the treatment of landscape. Construction is brick and roofs are of corrugated asbestos. All rooms have openings below the eaves for ventilation at a high level. An attempt has been made to humanize the buildings by reducing the scale as far as possible to one in which a child may feel at home. The school designer, under the consultant architect, was R. Rutherford, and the site agent A. H. Lewis.





15, Broken Hill school; the entrance front, showing particularly the significance of shadow in African landscape design.

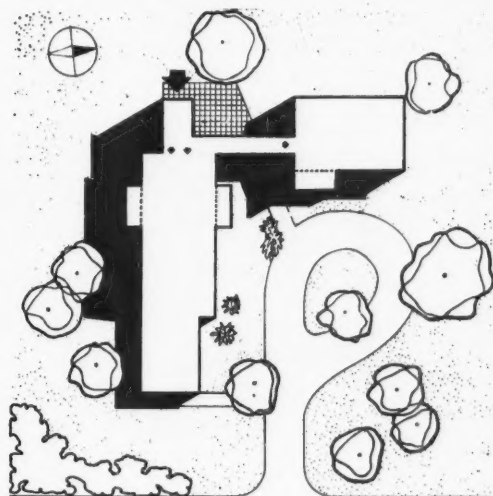
SCHOOL AT BROKEN HILL

15

FLATS AT LUSAKA: 1

This group, built for the Farmers' Union Co-operative Society, consists of eight flats with allowance for later extension. To suit the reverse conditions of light that exist in Africa (as compared with England) the experiment has been made of reversing the usual colour tones of external surfaces; i.e., walls are light and window reveals and surrounds are dark. The designer, under the consultant architect, was I. G. MacLaurin.

16, from the north-east, showing the deep balconies and the glazed access link between blocks. 17, close-up of one block. The walls are light to reflect back the heat of the sun and the window reveals dark red to absorb light and reduce glare within.



site plan

SCALE 1:1000



16



17

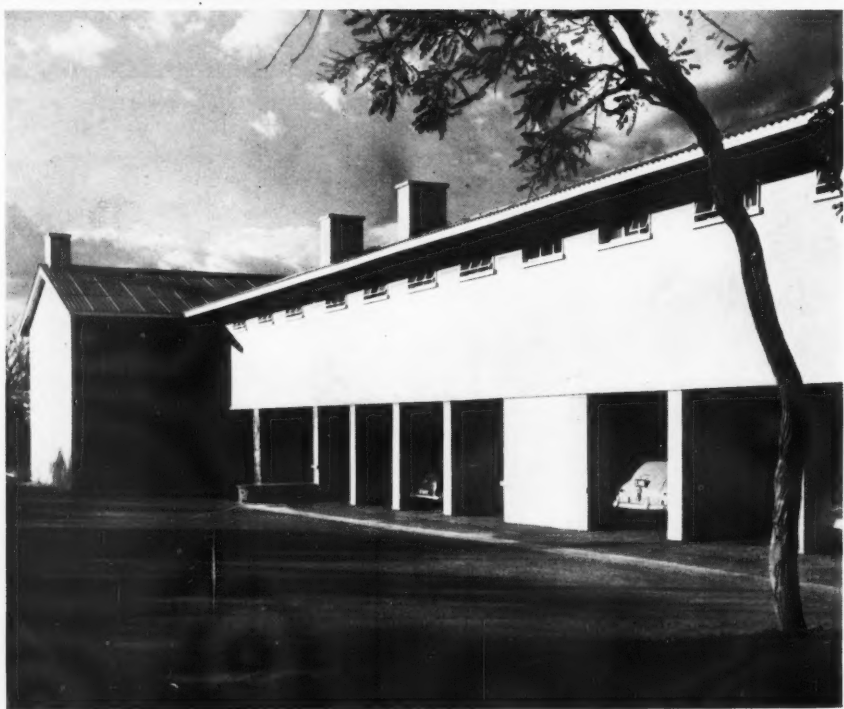


18, from the garden, showing covered entrance. On the right are maisonettes with 'stoeps' instead of balconies. 19, three balcony flats built over garages, with their main outlook to the south-east. The walls are rendered and coloured grey-green. The pier is of local limestone. 20, the north-west side showing entrance and garages. The blank wall keeps the rooms inside protected from the low west sun.

19

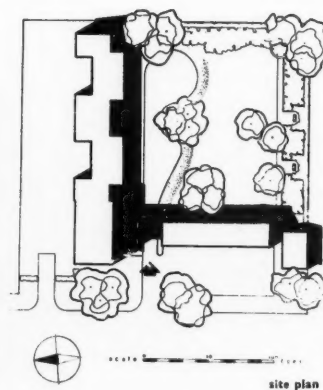


20



FLATS AT LUSAKA: 2

This group has been built near the British South Africa Company's offices in Lusaka, mainly to house the Company's staff. Accommodation consists of seven flats and four maisonettes, all with their own garage. The external colouring is grey-green, with white surrounds to windows, etc. The designer, under the consultant architect, was R. Rutherford.



H. Montgomery Hyde

OSCAR WILDE AND HIS ARCHITECT

A bundle of papers, left by that remarkable Victorian architect and man of the theatre, E. W. Godwin, has recently come to light, in which are recounted his dealings with Oscar Wilde for whom he decorated Wilde's own house in Tite Street, Chelsea. In the following article Mr. Montgomery Hyde, historian and Member of Parliament, tells the story that emerges in these hitherto unpublished papers.

WHEN OSCAR WILDE married Constance Lloyd in the summer of 1884, he took the lease of a house in Chelsea—No. 16 (now No. 33) Tite Street—which was to be their future home. While its exterior was that of an ordinary Victorian dwelling, its new tenant planned to convert its interior into something extraordinary and quite unlike the interior of any other Victorian mansion. For this purpose he secured the services of Edward Godwin, who devised and carried out the original and, as some visitors considered, bizarre scheme of interior decoration in addition to designing most of the furniture. In this work he is said to have received some help from James McNeil Whistler. A bundle of Godwin's papers, hitherto unpublished, including a number of letters from both Wilde and his wife, all of which the architect carefully preserved, and which has now come into the present writer's possession, has made it possible to reconstruct this scheme.¹

No. 16 was a four-storey dwelling with a basement. To the right of the entrance hall was the room facing the street known as the Library where Wilde did most of his work on an antique mahogany writing table which had once belonged to Carlyle. Also on the ground floor, giving on to the back, was the dining room. The whole of the first floor was taken up by a large drawing room, which was divided in two by folding doors, the back drawing room being used by Wilde as a smoke room. There were two bedrooms on the second floor, and another on the third, which was the top. (The Wildes' own bedroom was the second floor front.) At the back of the top floor there was another room originally intended as a workshop for Wilde but he seems to have used it seldom, preferring the Library for such work as he did at home. These were the principal rooms in the house, for which Godwin designed the following scheme of decoration.

'Coloring and Painting Specimens of all the colours will be given by the Architect.

Ground floor.

Dining Room. The whole of the wood-

¹ For permission to quote from these letters the writer is indebted to Mrs. Vyvyan Holland who owns the copyright.

work to be enamel white the walls pt in oils enamel white & grey to the height of 5-6. The rest of the walls & ceilings to be finished in lime-white with a slight addition of black to give the white a greyish tone. At the top of the Dado a band of wood to be fixed of section as per drawing E & painted enamel white to match rest of wood-work.

Library. The walls to the height of 5'-6" to be painted in distemper dark blue. The upper part of the walls cornice and ceiling to be pale gold colour. The woodwork throughout to be golden brown (russet). The wall band to be of thin wood as per drawing F painted golden brown.

Entrance hall:—Dado 5' 6" Grey. Wall bank white. Wall over & ceiling yellow. Woodwork white.

Staircase:—Walls and ceilings yellow. Dado Grey continuing hall. Woodwork white and wall band to step with stair at intervals of 4 or 5 steps.

Drawing room front: Woodwork ivory white Walls distempered flesh pink from skirting to cornice. The cornice to be gilded dull flat lemon colour gold and also the ceiling margin to Japanese leather which latter will be provided by Mr. Wilde and is to be properly fixed by Contractor. The wall bank to be moulded wood as per sketch pt ivory white.

Drawing room back. Distemper pale green ceiling and cornice walls green darker.

Fireplace & Woodwork painted brown pink.

2nd floor.

Bedroom front. Pink walls wood-work ceiling & 2 feet of top of walls under cornice apple green.

Bedroom back:—Dark blue walls 2ft. of upper part cornice & ceiling pale blue with greenish tone added.

3rd floor.

Mr. Oscar Wilde's room. Greyish-pink-red ceiling & upper part of walls to depth of 4' 0" lower part of walls red russet brown.

3rd floor front. All white woodwork walls and ceilings yellow.

In addition to this specification

there were various additions and alterations entrusted to the contractor. Several of Godwin's drawings of parts of the drawing room have survived. One of them shows the elaborate overmantel into which was set a bronze bas-relief by Donaghue, an American sculptor, depicting a scene suggested by Wilde's poem 'Requiescat.'² Godwin also prepared sketches showing how several of Whistler's etchings—Venetian studies presented by the artist—and a few drawings by Edward Burne-Jones could best be arranged along the walls so as to form a deep frieze against a background of dull gold. For the dining room furniture Godwin designed a suite in white, and also a sideboard with which he took particular pains. The chairs for this room were modelled in various Grecian styles, while round the walls there was a strip of shelving which served for tea and buffet suppers. 'By this arrangement,' as one visitor remarked, 'the centre of the room was an open space instead of being absorbed by the customary huge table laden with refreshment, and gave an impression of greater size and lightness to the room.' Godwin was again responsible for the soft furnishings, and even for such aids to ablutions as were procurable in those days. 'I should be very glad,' wrote Constance Wilde in one of her letters to the architect, 'if a bath of any artistic shape could be found for my room.'³

While the alterations and decorations were being carried out, the Wildes stayed in the bachelor rooms in Charles Street (now Carlos Street), off Grosvenor Square, where Oscar had lived before his marriage. Like all newly-wed couples, who are waiting to get into the matrimonial home, they were consumed by impatience at the leisurely pace at which English workmen always seem to proceed on these operations. And so it happened that one day, soon after the honeymoon was over, Wilde called on the architect at his house in Westminster in the hopes of hurrying

² Written by Wilde, when an undergraduate at Oxford, in memory of his only sister, Isola, to whom he was devoted and who died in childhood.

³ Anna Comtesse De Brémont, *Oscar Wilde And His Mother* (1911) at p. 87.

on the work. But Godwin was not in. In fact he was busily engaged with Lady Archibald Campbell in directing an open-air performance of *As You Like It* in the grounds of Dr. McGeagh's hydropathic establishment at Coombe Wood, near Kingston-on-Thames. Wilde left the following note scribbled in pencil on a sheet of Godwin's notepaper.

7 Great College Street,
Westminster, S.W.

[July 19, 1884]

Dear G.

I suppose you are as busy as you like it (or don't like it)! When can I see you Monday at Tite Street?

I want to press on the laggards—if you like of course after the play will have to do, i.e. Thursday, but Monday wd be best.

Ever yrs,

OSCAR WILDE.

According to Whistler's biographers Godwin had a way of always making his estimates lower than the actual expenses, and then siding entirely with the builders in case of disagreements and misunderstandings. That, they allege, was the way the crash came which obliged Whistler to leave The White House.⁴ In the case of 16 Tite Street it cannot be denied that something of this kind happened. The original building contractor was a man named Green, who was already under contract to the landlord to execute certain work, of which the landlord was willing to give the benefit to the incoming tenant. To facilitate this arrangement it appears that Green agreed to allow Wilde to deduct so much from his account. Unfortunately a difference of opinion arose between them as to the exact amount to be credited. Also it appeared that Green skimmed some parts of the work besides failing to carry out his instructions in regard to others. The result was that Wilde closed his account and declined to pay it when it was rendered. He then hurried off to the provinces to fulfil a series of lecture engagements, but before leaving he asked Godwin to employ another contractor, which the architect undertook to do.

From Bristol Wilde wrote to enquire whether the new contractor, whose name was Sharpe, had begun work.

The Royal Hotel

Bristol.

[October 14, 1884]

Dear Godwin,

I write to you from your own city to say that Allport's estimates work to be done by Green at £72!!! Amazing: now let us for heaven's sake [get a] move on. Is Sharpe in? And can I see you on Friday anywhere: it is my first day in town.

I want if possible Sharpe to be in and doing! I am so overwhelmed with expenses. I will be in town Friday afternoon. Will you send a line to Charles St.

Ever yours,

O.W.

Indeed on the same day as Wilde wrote this letter Godwin approved the new contractor's estimate for the work to be done at £110.

When Wilde got back to town an unwelcome surprise awaited him in the shape of a writ from the old contractor claiming the amount of his account. 'What shall I do about

⁴ E. R. and J. Pennell, *The Whistler Journal* (1921) at p. 252.

⁵ The surveyor employed when Wilde took the house.

Green? Wilde asked the architect. 'He is too horrid.' Godwin advised his client to defend the action and apparently he also recommended a firm of city solicitors, Messrs. George and William Webb of 11 Austin Friars, whom Wilde instructed to enter an appearance on his behalf. This meant interviews, affidavits and other tiresome legal documents not to mention costs and a sum of money which the solicitors felt they must pay into court. Of particular importance were the details of the oral agreement which Wilde alleged Green had made with him; on this subject the solicitors were quite explicit. 'For greater caution,' they wrote to Godwin, 'we ought to see Mr. Wilde and examine him as he would be examined before a Master, because of course "understandings" won't do; we have to go upon arrangements.'

Meanwhile furniture began to arrive ('the Japanese couch is exquisite'), only to be appropriated by the indefatigable Green. On November 3 Wilde wrote as he was again on the point of leaving London:

Don't you think a vermillion band in the front room—ground floor—in the recess—to continue the moulding would do for the present—till the bookcase is arranged?

I am in much distress over Green seizing the furniture—you alone can comfort me. And again, a month later, as he was on the point of returning to town:

I wish you would choose the colours—the red for the drawing room—as the thing is at a standstill. Is it to be vermillion? Is it not?

The universe pauses for an answer! Don't keep it waiting! Later in December Wilde was again away, lecturing this time in Scotland, when the new contractor's bill, amounting in all to £227 17s. 0d., arrived as a further unpleasant surprise.

The Balmoral,
Edinburgh.
[December 17, 1884]

My dear Godwin,

I cannot understand Sharpe's account—enclosed—what is (1) extra painting? What is (2) 14 gas brackets—what is deal shelf overmantel and case in Dining room—etc. Sharpe has been paid first £40 for the overmantel in bedroom and drawingroom, and the sideboard—which by the bye I thought very dear—then £120 for his contract—but this new £100 takes me by surprise—I thought the £120 was for everything—surely Green fixed the gas stoves? I may be wrong, but would you look over it again?

I hope you have been able to choose the stuffs—I don't think the oriental blue and red hanging is big enough for two curtains on landing at drawing room—would you choose something for that place—and see my wife about them. I do hope to see things nearly ready when I come home—the coverings for settees especially.

I wish you were in Edinburgh with me—it is quite lovely—bits of it.

The house must be a success—do just add the bloom of colour to it in curtains and cushions.

Ever yours,
OSCAR.

Godwin had little difficulty in explaining how 'this new £100' was made up. Extra painting throughout the house accounted for £32, four coats of paint with labour to the outside cost a further £21. Then there

were such items as 'Japan gold paper' for the drawing room, study and the bathroom (£12), 'putting Mr. Green's mistake right' (£12 17s. 0d.) and the services of a night watchman (£5). Unfortunately for Wilde there was worse to come, since the contractor sent in a further account shortly afterwards. 'I am aghast at Sharpe's bill,' Wilde expostulated. 'His charges are worse than Green's. £3 9s. 0d. for a screen of iron piping! £3 6s. 0d. for hanging lamps!!! £9 for the man who [put up] an array of shelves which is ridiculous. Sharpe told me he had not made much over the furniture in Constance's room. It is clear what he is doing—overclaiming on other things.'

With the coming of New Year, 1885, the Wildes were at last able to move in to the house. Although he grumbled about the expenses Oscar was far from ungrateful to the architect. 'You have had a great deal of trouble over the house,' he told him, 'for which I thank you very much, and must insist on your honorarium being not ten but fifteen guineas at [least].' And with the honorarium went in due course a note in Wilde's most graceful style:

My dear Godwin,

I enclose a cheque and thank you very much for the beautiful designs of the furniture. Each chair is a sonnet in ivory, and the table is a masterpiece in pearl. Will you let me know what I owe you for the plan of the new room? I fear I cannot build it yet—money is as scarce as sunlight, but when I do I will look for your aid. I don't know what you owe Constance—but she will write to you. I was so sorry to miss you. Do come and dine any day this week—and will you come to my wife's box at the 'Hunchback,' Lyceum, on Saturday evening.

Ever yours,
OSCAR.

It was perhaps ironical that such an enthusiastic exponent of general hygiene as Edward Godwin should now suffer a breakdown of his own health from which he was destined never to recover. For the time being he retired to the country to get some rest before tackling another open-air production at Coombe Wood with Lady Archibald Campbell—Fletcher's *The Faithful Shepherdess*, as well as a revival of *As You Like It*. 'We are very much annoyed at your being away and not constantly dining with us' Wilde wrote to him. And again—

16, Tite Street,
Chelsea.
[April, 1885]

Dear Godwin,

I am glad you are resting—nature is a foolish place to look for inspiration in, but a charming one in which to forget one ever had any. Of course we miss you, but the white furniture reminds us of you daily, and we find that a rose leaf can be laid on the ivory table without scratching it.

We look forward to seeing you robust, and full of vigour. My wife sends her best wishes for your health.

Ever yours,
OSCAR WILDE.

During this time Wilde completed a long article on 'Shakespeare and Stage Costume' which appeared in the May number of *The Nineteenth Century*.⁶ In commenting on the

⁶ Later republished with some alterations as 'The Truth of Masks' in Wilde's book *Intentions* (1891).

elaborate scenery and costume, which Godwin had designed for W. G. Wills's play *Claudian*,⁷ Wilde paid a warm tribute to the architect whom he described as 'one of the most artistic spirits of this age in England.' Later in the same article he mentioned Lady Archibald Campbell's productions of *As You Like It* at Coombe Wood but does not appear to have emphasized Godwin's contribution strongly enough to please the designer.

I was in mourning for my uncle, and lo! he speaketh.

Revised version.

Dear Godwin,

I am delighted to know you are somewhere. We thought you were nowhere, and searched for you everywhere, but could not find you any where.

Thanks for your praise of my article. The reason I spoke of 'Lady Archie's' production was this. I had spoken before of you in *Claudian*—and was afraid that a second mention would look as if you had put me up to praise you. But every one knows you did it all. The glory is yours entirely.

Do come to town. At Oxford you were mourned with lamentation. The play was charming.⁸ See next Saturday's *Dramatic Review* for my account of it. An amazing criticism! with views of archaeology enough to turn Lytton into a pillar of salt.⁹

'My wife has a cold' but in about a month will be over it. I hope it is a boy cold, but will love whatever the Gods send.¹⁰

How about Coombe this year? I must criticise it somewhere.¹¹

Ever yours,
O.W.

Meanwhile the proceedings initiated by the contractor Green were dragging their way through the usual interlocutory stages of a legal action. Eventually the plaintiff took out a summons to refer the matter to an arbitrator, which was agreed to, and the reference was fixed for hearing at the Law Courts at the end of May, 1885. Unfortunately when the time came Godwin felt too ill to give evidence, but the solicitors begged him to attend for a few minutes so as to explain this to the arbitrator and ask for an adjournment. The result was that the hearing was postponed for a month, and during this period Green's solicitors made overtures for a settlement.

On June 22 Wilde left a note for Godwin at his club which read: 'There is a compromise proposed—but it means my paying £125! I cannot do that: but am ill with

⁷ Produced at the Princess's Theatre, London, in December, 1883, with Wilson Barrett in the title part. The production was applauded among others by Ruskin who wrote 'With scene painting like that, this Princess's Theatre might do more for art teaching than all the galleries and professors of Christendom.'

⁸ Shakespeare's *Henry IV* produced by the University Dramatic Society at the Town Hall, Oxford, on May 15, 1885.

⁹ *The Dramatic Review*, May 23, 1885. 'Even the dresses had their dramatic value. Their archaeological accuracy gave us, immediately on the rise of the curtain, a perfect picture of the time.'

¹⁰ Wilde's elder son Cyril was born in Tite Street on June 9, 1885.

¹¹ For Wilde's criticism of *As You Like It* see *The Dramatic Review*, June 6, 1885: 'On the whole the Pastoral Players are to be congratulated on the success of their representation, and to the artistic sympathies of Lady Archibald Campbell, and the artistic knowledge of Mr. Godwin, I am indebted for a most delightful afternoon. Few things are so pleasurable as to be able by an hour's drive to exchange Piccadilly for Parnassus.'

apprehension. It really rests on your evidence. If you cannot come my case is lost.'

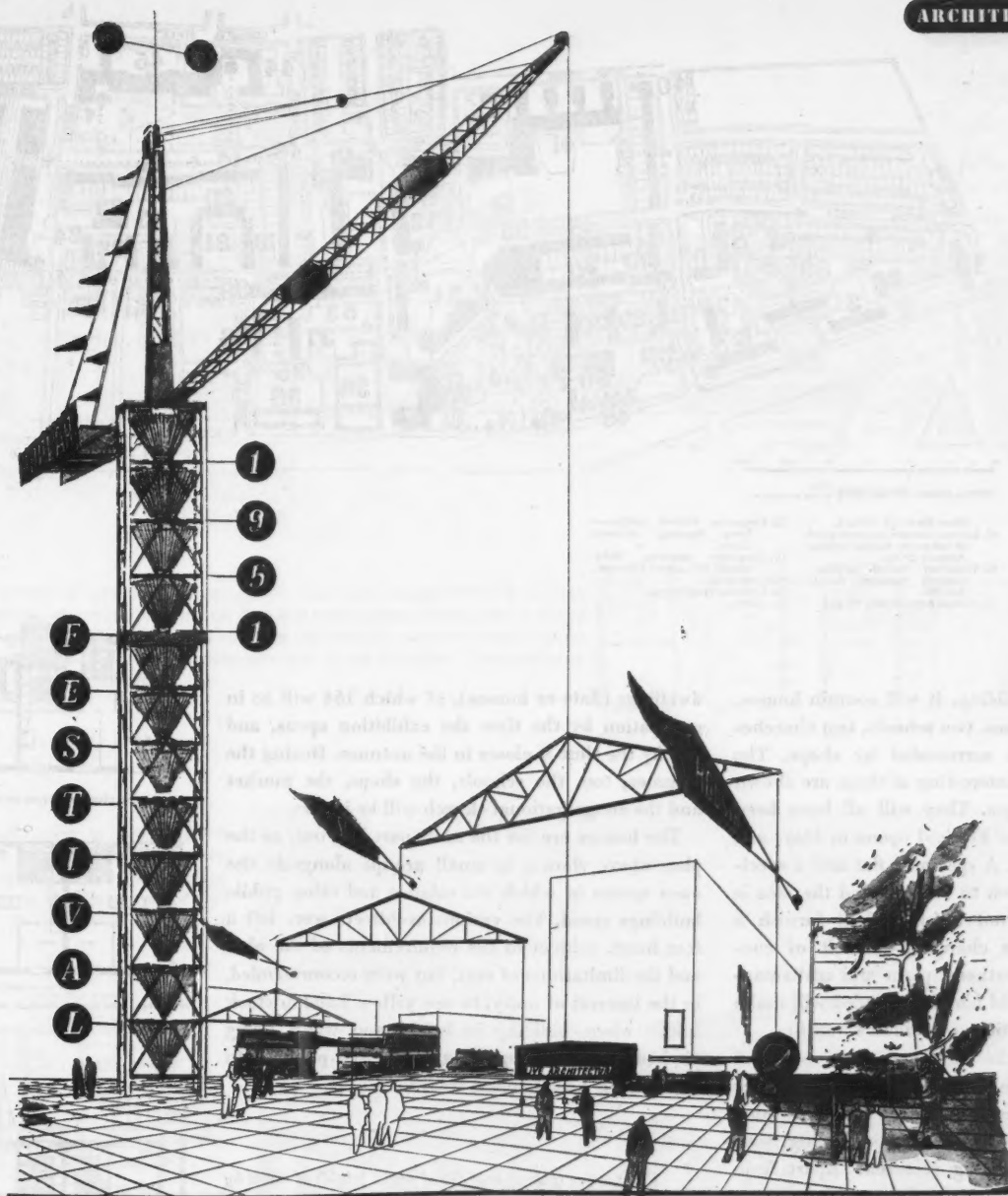
When this note was found among Godwin's papers after his death, it was seen to have been endorsed in the architect's handwriting with these words: 'Answered that my evidence was his always.'

However, on the day before the hearing the parties did finally succeed in coming to terms so that Godwin did not have to go into the witness-box after all. No record has been discovered of the financial details, but the settlement was based on the report of an independent surveyor. And so ended a protracted and irritating dispute. It was Wilde's first experience of the workings of the law. His second experience took place almost exactly ten years later at the Old Bailey. But by this time Edward Godwin was no longer alive, while the contents of the house which he had decorated with such skill had been sold by order of the sheriff, fetching mere knockdown prices.

Sick man as he was when he was working in Wilde's house in Tite Street, the casual notes and sketches which appear on the back of his drawings indicate that he was planning for another great theatrical venture. 'One might have thought that to have produced *As You Like It* in an English forest would have satisfied the most ambitious spirit,' wrote Wilde; 'but Mr. Godwin has not contented himself with his sylvan triumphs. From Shakespeare he has passed to Sophocles, and has given us the most perfect exhibition of a Greek dramatic performance that has yet been seen in this country.' This was *Helena In Troas*, a lavish production in which Godwin employed the spectacular medium of a circus arena to show off the fine properties of the Greek chorus against a brilliant background combination of scenery and costume.¹² But if Godwin's theatrical genius thus enabled the Philistines to peer into Paradise, it also considerably alarmed the more conservative business interests in the theatre who regarded Godwin's innovations as revolutionary. However, as it turned out, their fears were groundless. Godwin was now suffering from acute inflammation of the bladder. Less than six months later he was dead.

By his own wish no stone marked Edward Godwin's last resting-place. But for many years Lady Archibald Campbell used to tend his grave. She also paid fitting tribute to his memory in the leading article which she wrote, at Wilde's request, for the first number of *The Woman's World* to be published under Wilde's editorship. Her words may serve as a fitting epitaph for 'that superb artist,' as Sir Max Beerbohm has called him. 'No man ever lived with greater singleness of purpose. To create beautiful things for the mere sake of their loveliness, this was his object; not wealth, not position, not fame even. Yet fames surely shall be his, for the muses taught him and the mother of muses had care of him. Poet of architects, and architect of all the arts, he possessed that rare gift, a feeling for the very essence of beauty wherever and whenever it was to be found.' For Oscar Wilde he remained, in the perspective of memory, the builder of the 'house beautiful' and the creator of the only home that Wilde was ever able to call his own.

¹² Among the many female beauties in the large cast was Constance Wilde, who, to please her husband, took the part of one of Helena's handmaidens.

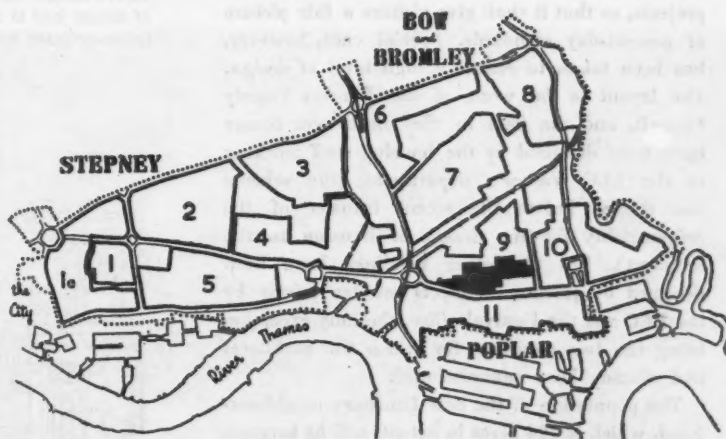


Vertical feature (No. 49 on plan overleaf) designed by John Wright.

LANSBURY NEIGHBOURHOOD POPLAR

Throughout next summer a 'vertical feature,' of which the above is a preliminary sketch, will mark the site of one of the London County Council's reconstruction areas in the East End, because this site is also to serve as the 'Live Architecture' exhibit of the Festival of Britain. The site is in Poplar, and is the first to be started of the eleven areas in this heavily-bombed district that are to be totally rebuilt, on the lines laid down in the Abercrombie-Forshaw County of London Plan, as self-contained neighbourhoods.

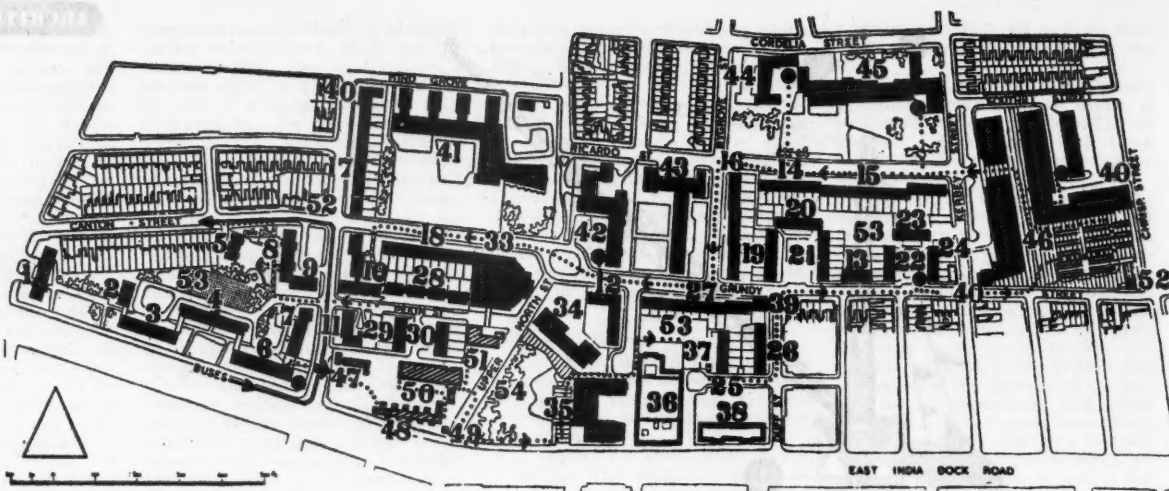
Previously known as Area No. 9 (see plan adjoining), the neighbourhood has been named Lansbury. Only the southern portion has been begun, but this is large enough, and will contain a sufficient variety of buildings, to give Festival visitors an impression of the standards aimed at in



The eleven reconstruction areas in the East End of London. No. 9 (Lansbury) is the first to be started. The part of it drawn in black is under construction and will form the Live Architecture exhibit of the 1951 Festival.

key

- 1, 2, 4, 5, 8, Six-storey flats: LCC Housing Director.
- 3, 6, 7, 9, Three-storey flats: LCC Housing Director.
- 10, 11, 18, Flats and houses: Bridge-water and Shephard.
- 12, Flats for old people.
- 13, Three-storey flats (existing).
- 14, 15, Four-storey maisonettes: G. A. Jellicoe.
- 16, Three-storey maisonettes and flats: G. A. Jellicoe.
- 17, Three-storey maisonettes and flats: Norman and Dawbarn.
- 19, 20, 21, 22, 23, 24, Three-storey houses with some one-room flats: G. A. Jellicoe.
- 25, 26, 27, Two-storey houses: G. A. Jellicoe.
- 28, 29, 30, Two-storey houses: Bridge-water and Shephard.
- 33, Roman Catholic church: Adrian Gilbert Scott.
- 34, Existing school, to be used for community centre.
- 35, Congregational church: Handyside and Start.
- 36, Seamen's mission (existing) and future extensions.
- 37, House for Congregational church.
- 38, Board of Trade offices (existing).
- 39, Pub (existing).
- 40, New pub.
- 41, Secondary (Roman Catholic) school: David Stokes.
- 42, Old People's Home: Booth, Leake and Pinchard.
- 43, Primary (Roman Catholic) school (existing).
- 44, Nursery school: Yorks, Rosenberg and Mardall.
- 45, Primary school: Yorks, Rosenberg and Mardall.
- 46, Shopping centre and market place: Frederick Gibberd.
- 47, Entrance and administration block of temporary Festival exhibit: Anthony Chitty.
- 48, Temporary Festival pavilion—Building Research: J. C. Ratcliffe.
- 49, Vertical Feature: John Wright.
- 50, Temporary Festival pavilion—Town Planning: Anthony Chitty.
- 51, Temporary cafeteria: Sadie Speight and Leonard Hemsash.
- 52, Lavatories.
- 53, Children's playground.
- 54, Garden.



CIRCULATION OF VISITORS

- 47, Entrance and administration block of temporary Festival exhibit: Anthony Chitty.
- 48, Temporary Festival pavilion—Building Research: J. C. Ratcliffe.
- 49, Vertical Feature: John Wright.
- 50, Temporary Festival pavilion—Town Planning: Anthony Chitty.
- 51, Temporary cafeteria: Sadie Speight and Leonard Hemsash.
- 52, Lavatories.
- 53, Children's playground.
- 54, Garden.

British post-war rebuilding. It will contain houses, flats, old people's homes, two schools, two churches and a market place surrounded by shops. The designs for the most interesting of these are shown on the following pages. They will all have been begun by the time the Festival opens in May, and some will be finished. A specimen flat and a specimen house will be open to visitors, and the idea is that those that are not finished shall furnish a working—and always changing—exhibit of contemporary building methods, plant and craftsmanship. The materials and labour expended will make a permanent contribution to London's housing.

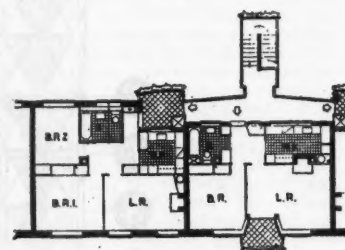
In one corner of the site (later to be occupied by a Health Centre), Festival authorities are erecting some temporary buildings (not illustrated here) to house their own exhibits dealing with townplanning and building research. Apart from these exhibition pavilions—and apart from some special work done to accelerate the landscaping—expenditure on this neighbourhood has been subject to the same restrictions as all present-day housing projects, so that it shall give visitors a fair picture of present-day standards. Special care, however, has been taken to ensure a high level of design. The layout is the work of the London County Council, and the flats in the south-west corner have been designed by the housing staff working in the LCC Valuer's department (the scheme was started before the recent transfer of the responsibility for the design of housing to the architect). But the other buildings have been designed by private architects selected jointly by the LCC and the Festival office, the only exception being the two churches, for which the architects had already been commissioned.

The population of the new Lansbury neighbourhood, which is 124 acres in extent, will be between nine and ten thousand—42 per cent of its pre-war population. The area comprising the 'Live Architecture' exhibit is 30 acres. It will contain 538

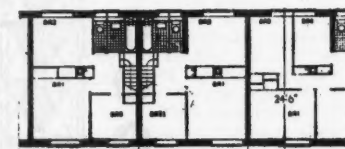
dwelling (flats or houses), of which 164 will be in occupation by the time the exhibition opens, and 440 by the time it closes in the autumn. During the summer, too, the schools, the shops, the market and the congregational church will be in use.

The houses are for the most part laid out, as the plan above shows, in small groups alongside the open spaces in which the schools and other public buildings stand. The various architects were left a free hand, subject to the requirements of the plan and the limitations of cost, but were recommended, in the interest of unity, to use yellow London stock bricks when building in brick, and when using pitched roofs to keep to a fairly low pitch, both these being East London traditions.

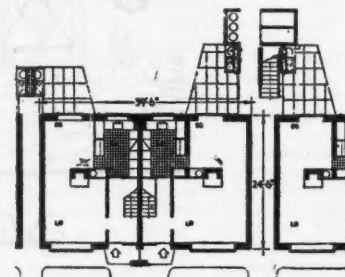
Perspective (below) and detail plans (right) of street by Norman and Dawbarn numbered 17 on plan at top of page. It has an unusual arrangement: two-storey houses—twelve in the row—with a flat on top of each, the flats being reached by external staircases at the back. Passages separating the ground floor of each pair of houses lead to the staircases. Construction is brick (plum-coloured below, stock above). Roofs are slate.



second floor plan (two types of flat)



first floor plan (upper floor of maisonette)

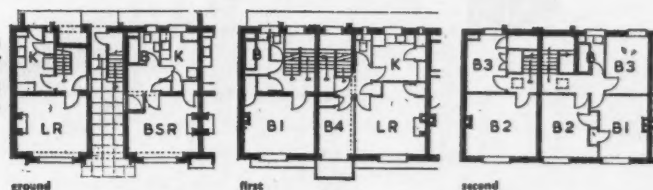


ground floor plan scale 1/32 in. = 1 ft.

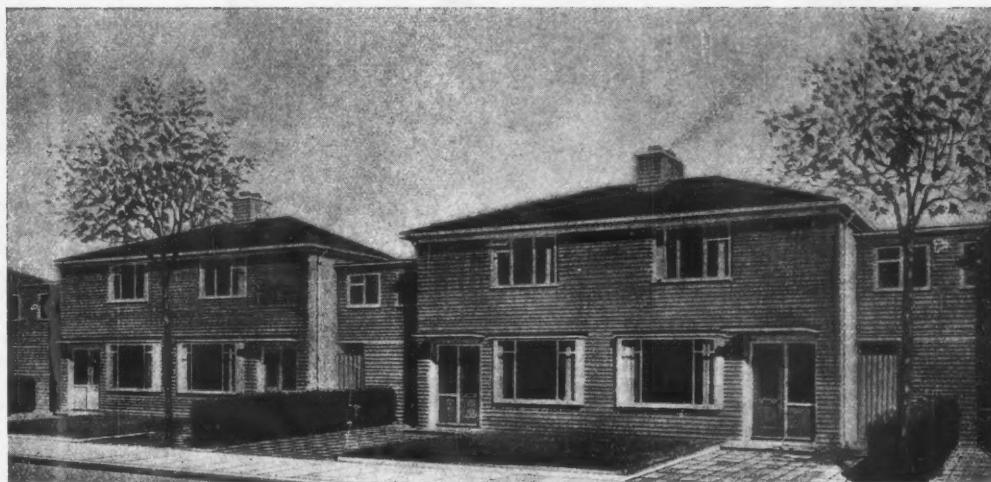
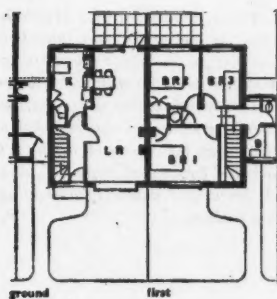




Perspective (above) of residential square by G. A. Jellicoe numbered 19-21 on plan facing. It consists of a mixture of houses, flats and maisonnettes. Right, detail plans of typical unit consisting of a three-storey house on one side of a common entrance and a ground-floor flat with a two-storey maisonette over it on the other. Construction is stock bricks with Welsh slate roofs.



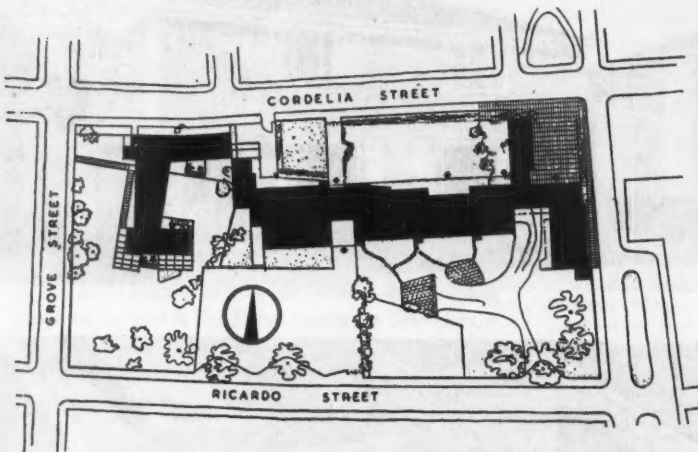
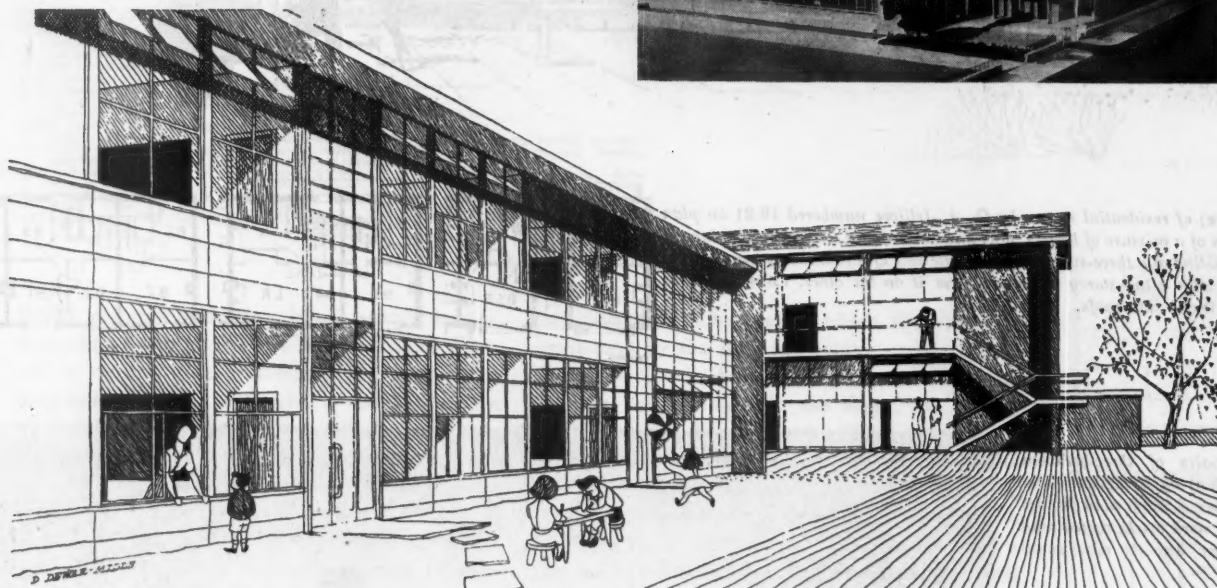
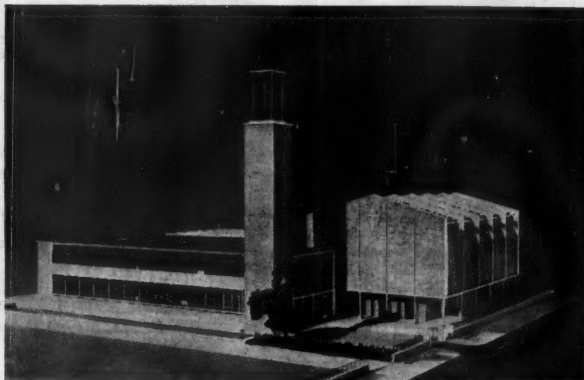
Right, linked pairs of three-bedroom houses (plan below) by Bridgwater and Shephard, numbered 28 on plan facing. They, too, are of stock brick, roofed with slate. Each house has its own small garden.



More living accommodation is provided in maisonnettes over the shops in the shopping centre and market place (right) by Frederick Gibberd, numbered 46 on plan facing. This model shows the view looking into the market square, with the clock-tower on the right and the covered market for meat and fish in the foreground. Beyond are collapsible market stalls. Out of the market place leads a shopping street, the junction being marked by a three-storey shop. There are two public houses at opposite corners of the square and a formal garden at the base of the clock-tower. The maisonnettes have bow windows overlooking the square and terrace gardens over the shops at the back. Construction is brick and reinforced concrete.

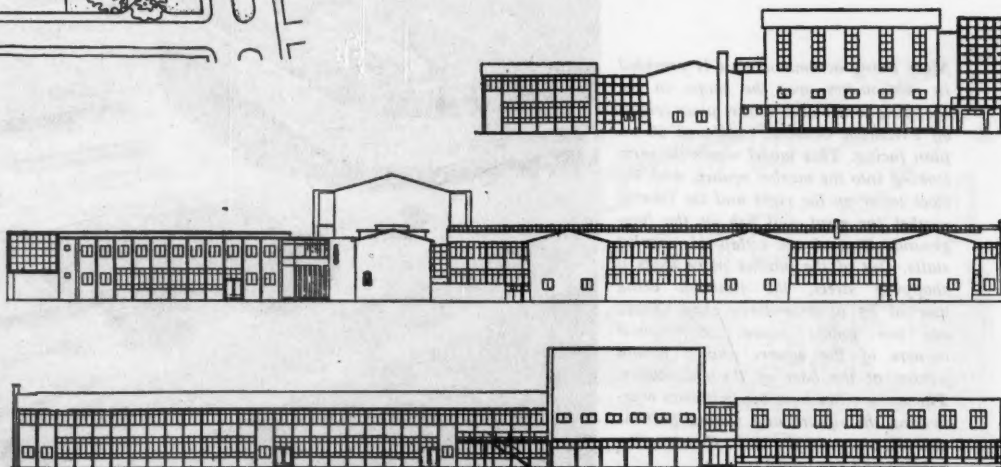


Right, the congregational church and hall by C. C. Handisyde and D. R. Stark, numbered 35 on plan on page 178. The church seats 400 on ground floor and gallery. It is lit by dome lights in the ceiling and small clerestory windows. The main structure is a reinforced concrete frame exposed externally. The tower is stock brick, the end walls textured concrete and the sloping side walls covered in sheet copper.



The primary and nursery schools, by Yorke, Rosenberg and Mardall, numbered 44-45 on plan on page 178, are planned as one group—see layout plan on left (the nursery school is on the left). They occupy an island site of three acres and will accommodate 320 juniors on the first floor and 200 infants on the ground floor of the main building, and another 80 in the single-storey nursery school. Juniors and infants share a dining room, but each have their own assembly hall on the same level as their classrooms. The perspective shows the classroom block on the left and the assembly hall block facing. A welded steel framework supports precast concrete floors and roofs. End walls are stock brick and assembly hall wing steel and reinforced concrete with brick and stone facings.

Right, elevations of the secondary (Roman Catholic) school, by David Stokes, numbered 41 on plan on page 178. It accommodates 450 children. The classrooms (left portion of bottom elevation) form one row with special rooms occupying parallel blocks at right-angles. At right-angles on the opposite side is the assembly hall wing. Construction is reinforced concrete and brick.



CURRENT ARCHITECTURE

a revival of a pre-war monthly feature. To supplement the detailed illustration of outstanding new buildings that appears elsewhere in the issue, recent buildings of interest are here briefly illustrated. In this month's selection are a factory, a church, a housing scheme and a nurses' home, all completed in Britain during the past few months.



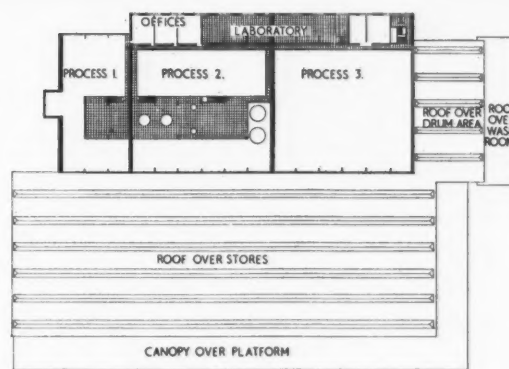
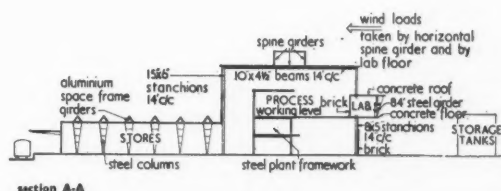
From west, showing cantilevered laboratories and offices.

FACTORY AT DUXFORD, CAMBRIDGE

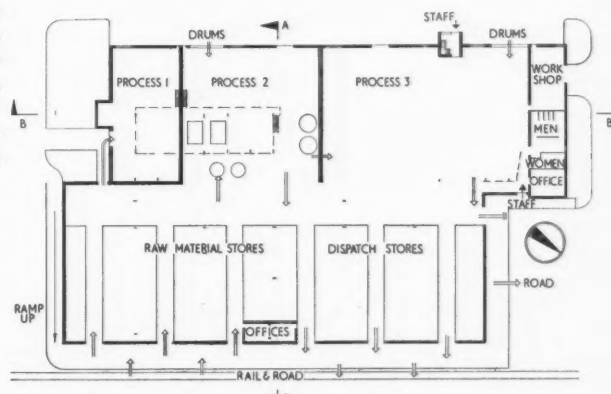
DESIGNED BY OVE ARUP

For Aero Research Ltd., who make various types of synthetic resin glues. The plan had to allow for future expansion. The site is in open country with a slope towards the River Cam. The factory has two main sections: a stores area (with a ceiling height of 17 ft.) and a production area (ceiling height 50 ft.), the latter subdivided to serve the three distinct processes involved. Supervision is from the offices and laboratories, which are 20 ft. up at the main production level. In order not to encroach on production space they have been cantilevered out from the side of the processing block. Full use has been made of the 50 ft. high cross-walls in the production area. These are light steel frames with two skins of $4\frac{1}{2}$ in. brickwork separated by a 15 in. cavity. Spanning across the tops of these walls for the length of the building is a

'spine' girder, consisting of a system of trusses which not only supports the 10 in. by $4\frac{1}{2}$ in. roof beams but takes the horizontal wind loads on the upper part of the building. It projects above the main roof level and provides space for ducts, tanks, etc. The main production area has glass walls supported on steel columns along either side. These are smaller on the laboratory side as the laboratory floor and roof act as horizontal beams and relieve the columns of part of the wind load. The outer edge of the laboratories is carried by a steel girder spanning across cantilevers framed out from the heavy cross-walls. The south wall has two vertical fins of latticed steel, covered with brick skins, to give longitudinal stability to the whole building. The north wall above the stores roof is designed as a deep lattice girder.



high level plan



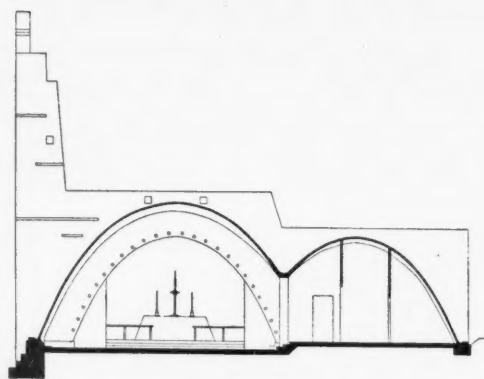
ground floor plan scale 1/8 in. = 1 ft.

CHURCH AT LAWRENCE WESTON, GLOS.

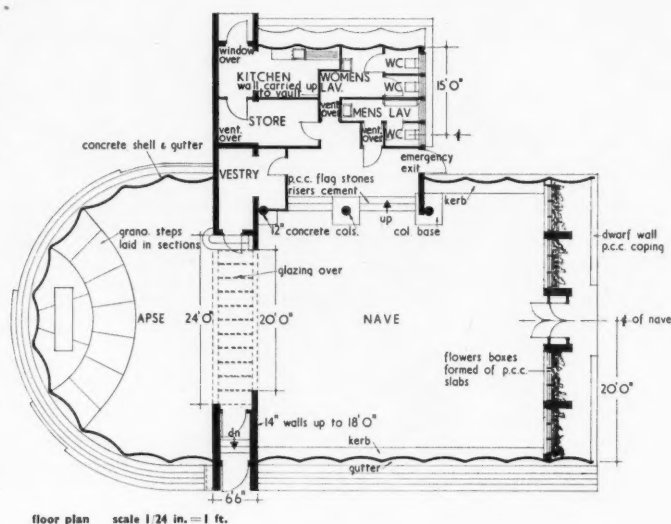
ARCHITECTS: BURROUGH AND HANNAM

The site is a new housing estate near Bristol, and the cost was only £6,000. The church seats 350 and is designed for alternative use as a community hall. The apse can be separated from the nave by a roll-up curtain. It seats an additional 70 and has its own door on the north side. Both nave and an annexe containing kitchen, lavatories, etc. (for use when the building serves as a hall) are enclosed by a corrugated concrete shell in the form of a catenary arch. The span of the arch over the nave is 40 ft.; that of the arch over the annexe 30 ft. The concrete, $2\frac{1}{2}$ in. thick, was supported by tubular centring which was later removed. Hessian was stretched over it, and the concrete applied in three separate layers. The corrugations are due to the sagging of the hessian under the weight of the concrete. The thinness of the concrete in this method of construction is due to its being in compression only. The corrugations help to stiffen it, and the

hessian serves the additional purpose of improving the acoustics of the interior. A reinforced concrete beam at the junction of the two arches is supported on three reinforced concrete columns poured into 12 in. spun concrete pipes which serve as permanent shuttering. Across the end of the two arches, separating nave from apse, is a double 9 in. brick wall, which rises to a height of 50 ft. at the north end to form a tower. The walls are 5 ft. 6 in. apart and the space between them roofed with glass. The nave is also lit at the west end by plate-glass windows in metal frames set between narrow brick piers. The floor consists of a 1 in. layer of concrete suspended on coir netting. It has a black pitch-mastic finish. The inside of the nave arch is painted white, and the walls on the south side, leading to the annexe, lemon yellow. Window frames are dark red, doors blue and furniture in the nave blue with touches of gold and silver. In the apse it is natural oak and teak.

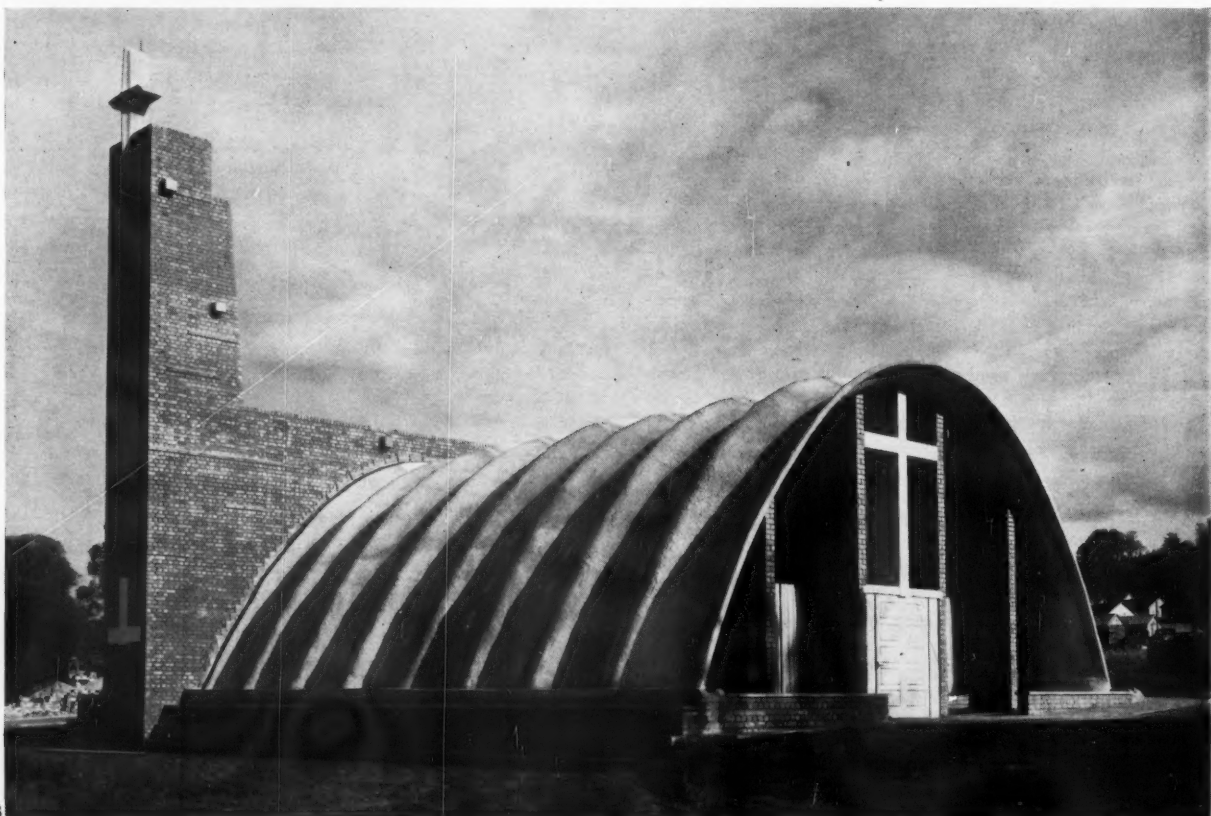
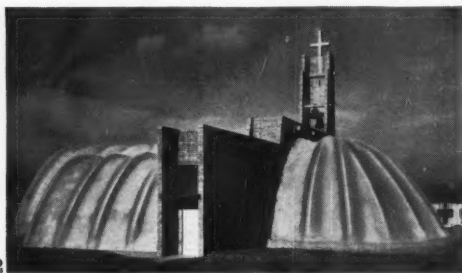


section through nave, store and kitchen



floor plan scale 1/24 in. = 1 ft.

The church from the south-east and (bottom) the north-west.





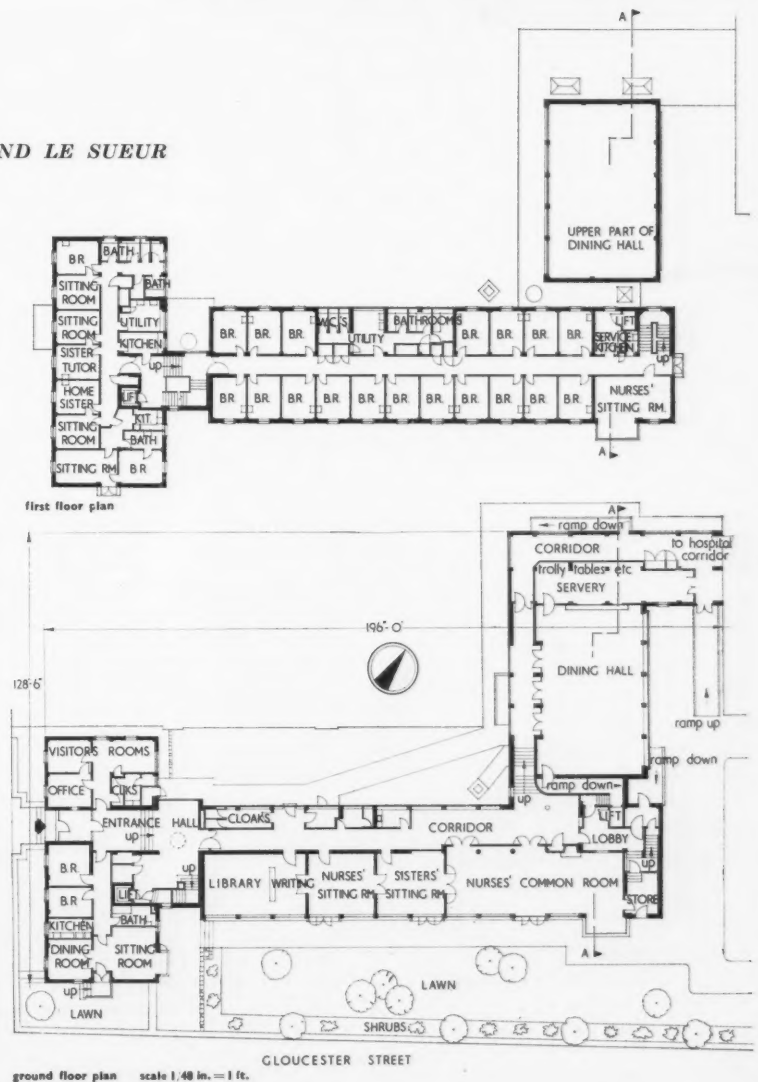
From the north-east with the dining hall on the right.

NURSES' HOME AT ST. HELIER, JERSEY

ARCHITECTS: GRAYSON AND LE SUEUR

The building adjoins St. Helier General Hospital and provides accommodation for a matron, assistant matron, administrative staff, twelve sisters, a hundred nurses and cadet nurses. In order to avoid an institutional atmosphere, the building has been planned somewhat like an hotel. The main ground-floor rooms along the south front are planned *en suite* so that they can be used for dances and other entertainments, and off the adjoining entrance hall are cloakrooms and lavatories for men guests. The dining-room, which occupies a single-storey wing at right-angles, is planned to take advantage of the view across the hospital garden and the parapet is kept low in order to keep the windows of the hospital clear. Provision, however, is made in the construction for the addition of bedroom accommodation above the dining-room if required later. The site is bounded on the north-west side by the island prison and, although it is hoped that this institution will soon be re-located and the site used for hospital purposes, it was a condition that as few as possible of the bedrooms should overlook it. A direct link with the

hospital has been built for service purposes and the convenience of the staff. Owing to the acute shortage of building craftsmen in Jersey and the considerable cost of dressing the local granite, with which the hospital itself is faced, concrete, in various forms, is used throughout the new building. Reinforced concrete is used for the frame, floors and roofs; concrete blocks for walls and partitions; 3-in. foamed concrete screed for insulation to the main roofs and precast concrete for the window surrounds. There are two types of concrete blocks: specially made 3-in. blocks with a facing of exposed crushed granite aggregate for the outer skin of the cavity walls, and 4-in. lightweight hollow blocks for the inner skin and for internal partitions. The granite aggregate has a warm pink colour, which blends well with the hard local granite of the existing hospital. The main roofs are covered with bituminous felt and cement tiles, and the smaller roofs with asphalt, bedrooms and corridors have rubber floors; servery, bathrooms and w.c.'s terrazzo and elsewhere there are hardwood blocks or strips. Walls are distempered pink and grey.





5

FLATS AT LINCOLN

P. F. BURRIDGE (City Architect)

Part of a housing estate of some 700 dwellings just within the city boundary. There are five three-storey blocks (for old couples and adult families) in a scheme that otherwise consists of two-storey houses. The site is flat, with a row of trees down the centre and a belt of trees along the western boundary, beyond which is permanent parkland with a lake. All five blocks give the majority of their rooms a south-west aspect with a view over this parkland. The balconies (large enough to take two deck chairs) are squinted towards

this view. Flats occupy ground floors and maisonettes two upper floors, so that all kitchens, etc., are within one storey of ground level. The maisonettes have balcony access, but the balcony is only overlooked by high-level, secondary windows with obscured glass. Walls are cavity brick; roofs timber with built-up bitumen roofing with green mineral finish. First floor, pre-cast concrete beams; second floor timber. Balconies faced with fluted asbestos. Internal ducts with removable panels take all service and soil pipes.

Above, two of the three-storey blocks of flats seen from the south. Below, part of the estate from the east, showing one of the two-storey houses on the left.



6

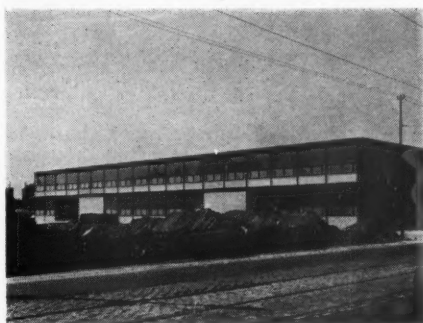


TIME

MIES AND NATURE

The effect of time on architecture is taken for granted in the case of old buildings, where it largely determines their texture and colour, but it is not often anticipated in the case of modern buildings which are regarded as permanently in possession of their pristine condition. Now that so many synthetic materials are in use, weathering of walls and roofs plays a smaller part in the changes time brings—many modern materials only look well if constantly kept as fresh as new—than does the growth of vegetation.

Last June some illustrations were published comparing Walter Gropius's own house at Lincoln, Mass., immediately after completion with its present aspect now that trees, shrubs and climbing plants have welded it into its landscape setting. Here, as a second example, is one of Mies van der Rohe's buildings at the Illinois



Institute of Technology in Chicago immediately on completion in 1947. And here is a portion of the same building (a section of wall and window about two-thirds of the way along the façade shown in the first picture) photographed last summer.



Mies van der Rohe, with his emphasis on machine-like precision, is the last architect whose work one would expect to see amicably co-operating with the vegetable world, but in the second photograph nature has already contributed its own kind of charm.

INDOOR PLANTS

HOYA (The Wax Plant)

The Hoya is a distinctive climber. Its leaves are dark green, fleshy, stiff and evergreen. The flowers which it bears in pendant clusters are as still, as perfect, as waxen Victorian floral bouquets. It is a climber which is frequently used as a house plant in the Scandinavian countries, and it is often seen there trained over doorways and in recesses where the sunlight cannot reach it. This is not necessarily a good idea, however, as the Hoya prefers a reasonable amount of sunlight. Though it can be used as a pot plant or climber, it is better trained overhead, when the flowers show to better effect.

The two best varieties are *H. carnosa*, which is pale pink with a raised brown eye,



and a variety of *H. carnosa* which has variegated leaves. The latter is not so common, and neither is the species *H. bella*, with purplish pink and white flowers, which is really unsuitable as a house plant as it needs stove house temperatures.

It needs root room and, therefore, should be progressively potted on as it develops so that it never becomes pot-

bound. It requires heat in winter, sun and ample ventilation in summer. It rests in winter, makes very little growth and only needs occasional watering, enough to prevent the roots drying out. In summer the thick, succulent waxen leaves need syringing vigorously two or three times a week with warm water. Propagation can be done from cuttings in February or March, and repotting should be done into a compost consisting of two parts sharp sand, two parts loam, two parts leaf mould, half a part of dried cow manure and a large pinch of bonemeal per pot.

With the exception of mealy bug, it is comparatively free from pests and diseases.

H. F. Clark

HISTORY

THE HOHENSTAUFFEN CASTLES

An extraordinary mixture of influences combined to produce the castles which Frederick II of Hohenstauffen built, as places of residence, for hunting and for military defence, in the southern Italian province of Apulia and the neighbouring province of Basilicata. Their inspiration probably owes as much to the personality of the Emperor himself as to any outside influence, but Bertaux (the French authority on medieval architecture in Southern Italy) considered that Castel del Monte, in some ways the most striking of them all, bore strong evidence of French influence and compared it with contemporary French castles and cathedrals. In fact the two English castles which resemble Castel del Monte in certain particulars were of French origin. They are Coniston (built about 70 years earlier in 1170), the Yorkshire keep which was copied from Mortemer Castle in Normandy, and the late twelfth century chapel of Dover Castle, whose architect was probably French. The circular keep of Coniston, ringed by its six buttresses, produces an effect which is strikingly similar to Castel del Monte. The vaulting of the chapel in Dover Castle is supported by pillars grouped in threes in the same manner as those in the first floor rooms of Castel del Monte.

German students of Hohenstauffen architecture naturally compare the Apulian castles with those of their native country. Shearer Cresswell, who is American, and

therefore not an interested party in the controversy, draws attention to methods of construction which resemble the Crusader's castles in Syria and buildings of the classical period; he also lays stress upon ecclesiastical influences. Bertaux also mentions this, particularly in connection with the Cistercians, and compares details of Lagopesole with the Abbey of Fossanova.

The prevailing Italian opinion is that Frederick II was himself the architect of Castel del Monte and that he took a great interest in the design and construction of most of his castles. This would certainly account for their distinct personality and for the extraordinary catholicity of their inspiration; for Frederick united in himself the contemporary civilizations of East and West, together with an appreciation of the classical tradition allied to a feeling for natural beauty unusual at that period.

Castel del Monte (facing page), Frederick II's hunting castle, locally known as the 'Spy of Apulia,' can be seen from a large part of the province, and a large part of the province is visible from its towers. The lonely grandeur of its site is typical of the *loca solatorium nostrum* which the Emperor sought as a means of escape from the trials of state which weighed on him increasingly as his reign advanced. It is not known when the building was begun or finished, and the only documentary reference occurs in a letter of the Emperor's dated January 29, 1240, but it gives no indication as to the progress of construction.

The outstanding characteristics of Castel del Monte are the strength and symmetry of its design, the simplicity with which this effect is achieved, and the mathematical perfection of the details of its



Castel del Monte

construction. It is built of limestone, quarried from the Murge hills on which it stands. The finely dressed blocks have weathered to a beautiful golden colour. The plan is two concentric octagons, of which the inner one is a court. Eight small octagonal turrets occur at the angles

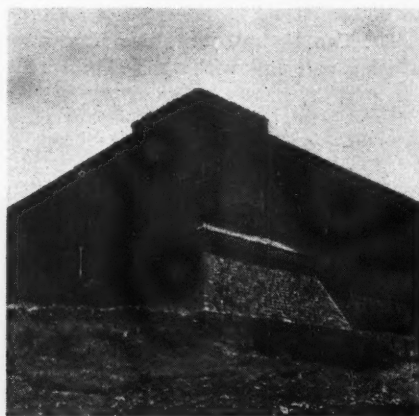
of the outer walls. The castle contains two stories, of which the ground floor was arranged as guard rooms, kitchens, and store room; while the first floor was intended as the Emperor's living quarters.

Lagopesole, which lies between Melfi and Potenza, was the last of Frederick's castles to be built, and was probably incomplete at the time of his death in 1250. It is rectangular in shape like the other military castles, and is built in a position of great natural strength, which was previously a fortified camp of the Emperor Lothaire.



Lagopesole

In the isolated beauty of its site and in many of its architectural details Lagopesole bears a close resemblance to Castel del Monte. The last stretch of road leading to the main gateway turns from right to left so that anyone approaching had to present their unshielded side to the archers on watch at the loopholes; the main entrance of the Lucera fortress is constructed in the same fashion. The outstanding architectural feature of the exterior of Lagopesole is the great buttress



Lagopesole

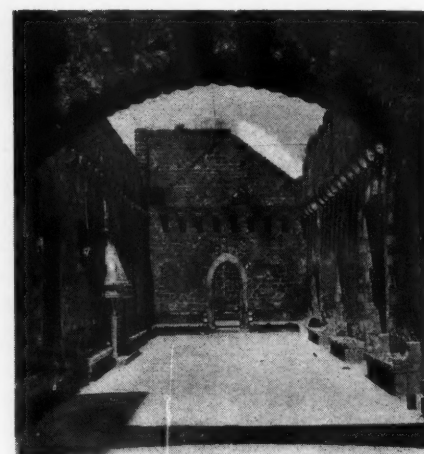
at the north-west corner. Shearer Cresswell compares it with that of Krac des Chevaliers in Syria.

Although today it is surrounded by a town, the site of Gioia del Colle is also in many ways similar to that of Castel del Monte—it stands high in the midst of the rolling hill country that was so well adapted to the Emperor's favourite sport of falconry. Small and exquisite, it was more of a pleasure house than a place of defence. Like Castel del Monte, it has no moat, no portcullis or drawbridge; its entire defence depended upon two towers on the south side and marshy ground on the north. Its shape is rectangular, and it is

built of rusticated blocks of 'tufo' (facing page) which have weathered to a dark red. The main entrance is by an arched doorway in the south wall, somewhat resembling that of a Florentine palazzo.

There are references to a castle which existed upon the site at a much earlier date. Its owner was Riccardo Seigneur of Mottala and Castellaneta, nephew of Robert Guiscard. In all probability a great deal of the castle is of Norman origin, though it is known that it was restored and embellished by Frederick's orders, probably after he stayed there on his way back from the Crusades in 1230.

The great hall of Gioia del Colle presents an interesting mixture of Norman and Hohenstauffen styles. The roof and arch



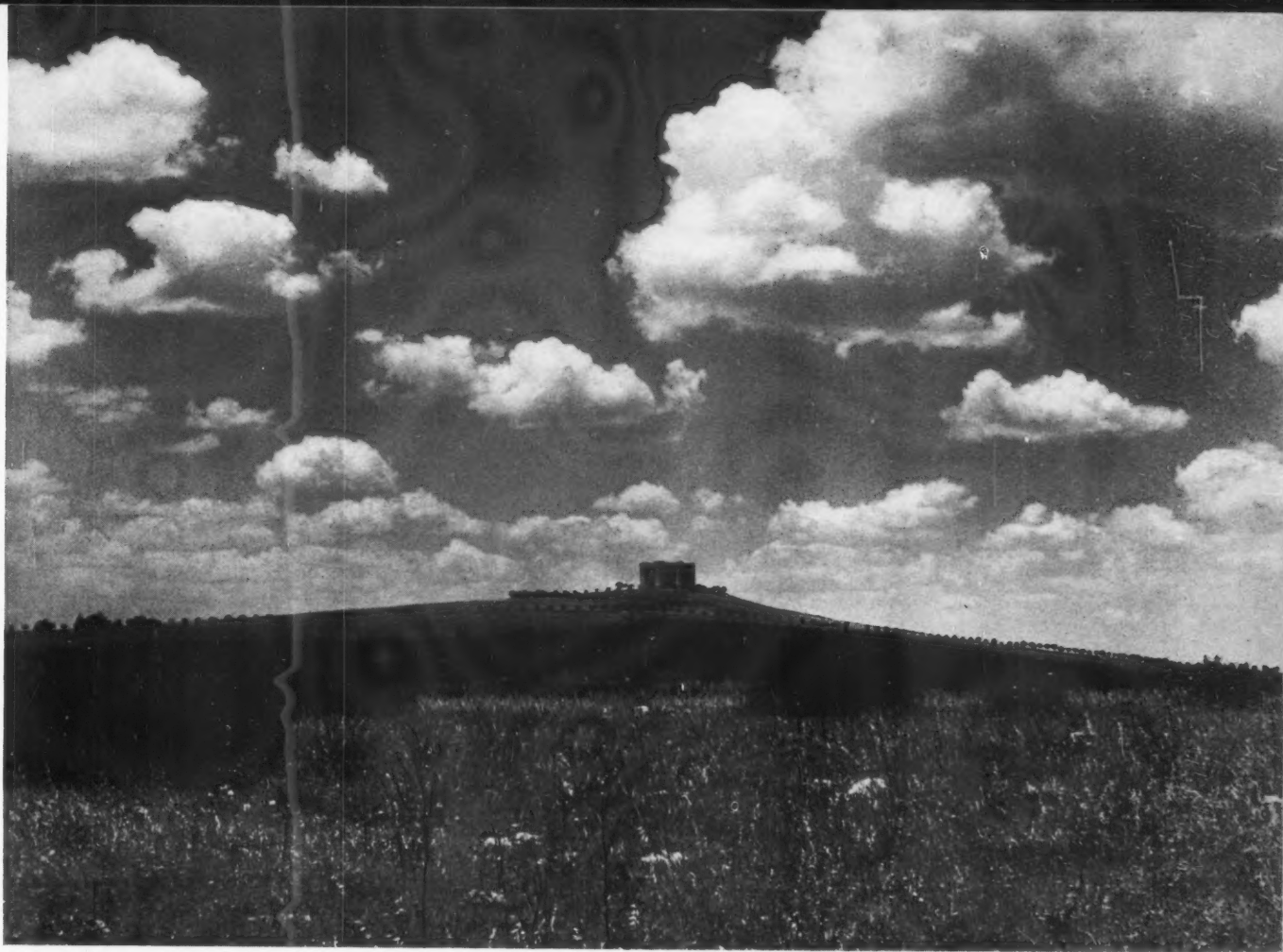
Gioia del Colle

were evidently Norman, while the doorways and windows are of the later period. The seats which surround the room resemble those which are found in the first floor rooms of Castel del Monte. The stone carving of the fireplace is similar in style to a throne which was discovered among a pile of fragments when the late owner of the castle began the work of restoration in 1914. It was re-erected on the wall behind the camera. Over the door and window of this room can be seen Frederick's crest, the Hohenstauffen eagle (below).

• Melfi was an important administrative

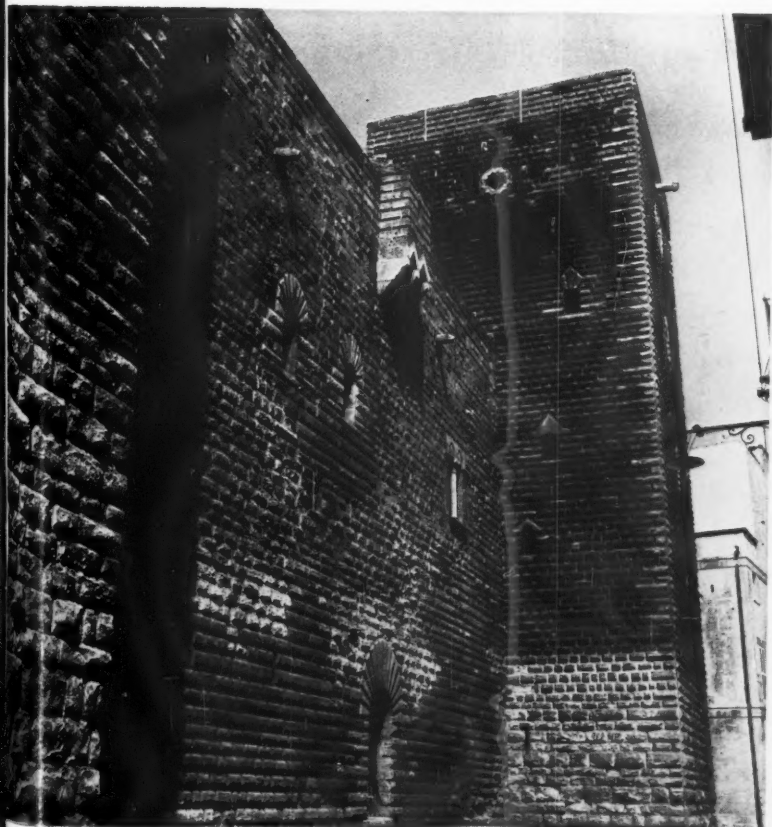


Gioia del Colle



The Hohenstauffen Castles: Castel del Monte

Giola del Colle

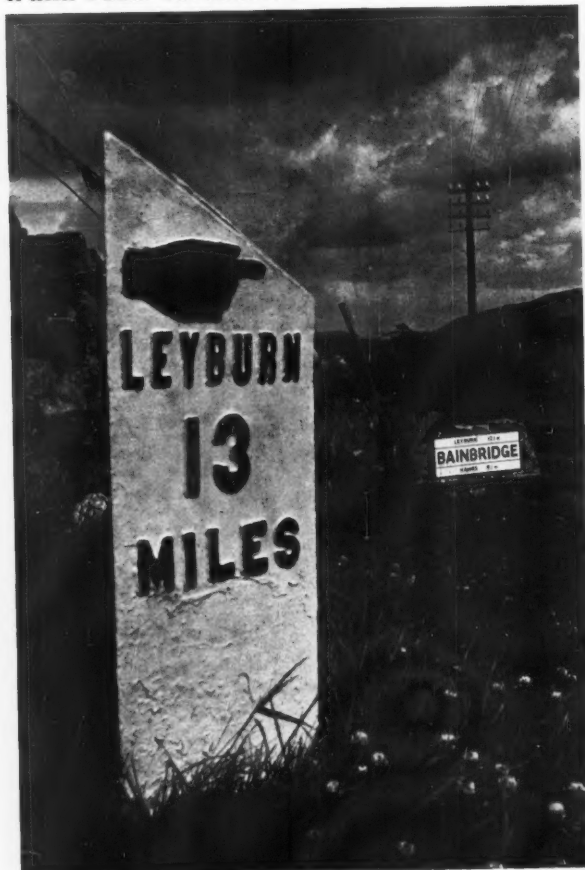




The Hohenstauffen Castles: Melfi

Bari

trunk road vernacular



centre of Medieval Italy and the castle, where Frederick granted his famous constitutions in 1231, had already been in existence since Norman times. The Norman towers were incorporated into a keep, and Frederick built an additional curtain wall fortified by octagonal towers. Many further alterations and additions have been made by succeeding generations, but the castle of Melfi still dominates the old walled town as it did in the thirteenth century. Lear's drawing of Melfi Castle in his book *A Landscape Painter in Calabria* was almost identical with this view.



Melfi

The view over the town from the Doria gate is reminiscent of that seen from the main entrance of Caprarola, the great Farnese villa near Viterbo. This sixteenth century gateway (facing page, top right), which is in use today, was pierced through the curtain wall after the castle had passed into the hands of the Doria family who owned it until the present Prince gave it to the Italian State.

Lucera was built about 1233 on the site of a Roman citadel; it consisted of a tower keep and a rectangular enclosure surrounded by a towered curtain wall. The



Lucera

enclosed area contained, like that of Melfi, an entire town. Whereas Melfi was an administrative centre, Lucera was the headquarters of the Imperial army in Italy, the base of the famous Saracens, whose mosque was built where the Duomo now stands.

After the fall of the Hohenstauffens, the castle of Lucera was occupied by the Angevins, and the round tower at the south-eastern corner of the fortress is an Angevin addition. Unlike the other Apulian castles of Frederick, Lucera is largely built of brick; only the lower courses of the walls, the angles of the towers, and the base of the keep are of stone. All that



Trani

remains of the keep are ruins of the massive square platform upon which it was built.

Bari, like several of the Hohenstauffen castles, was built on the site of earlier constructions. It stands in a position of considerable military importance guarding one of the main Adriatic harbours of Italy. As a result it has suffered more than many of Frederick's other castles from subsequent alterations and modifications. It was built between 1233 and 1240, and like most of the military castles it was rectangular in shape with a square tower



Bari

at each corner. The stones were rusticated, as at Gioia del Colle, and some of the tower windows bear a strong resemblance to those of Gioia.

The most important architectural feature of Bari, which has survived from Frederick's time, is the pillared entrance hall. Its capitals and consoles (see detail on facing page) are among the finest of any in the castles of Apulia and the Basilicata. Bari Castle has been used as a prison and barracks; and until a few years ago many of its most interesting features were hidden by modern buildings. A remarkable work of restoration is being carried out by the present Superintendent of the Monuments and Galleries of Apulia.

The castle is traditionally supposed to be the scene of the famous meeting between Frederick and St. Francis of Assisi; the recent restoration work has revealed a plaque commemorating it.

Trani (above) is a fairly well preserved example of Frederick's military castles. A stone over the entrance commemorates the fact that it was begun in 1233, the same year as Bari. Bills for its construction appear in the imperial archives of 1240, and another stone in the sea wall records its completion by Philippe Chinard, Grand Constable and Count of Aquaviva and Conversano, in 1249. Only three of the original four towers remain. In the interior there are some interesting sculptured consoles and window surrounds similar in style to those which exist in Bari. Unfortunately, owing to its present use as a prison, no restoration has been carried out, and the original building is obscured by many later additions. Georgina Masson

HIGHWAY CODE

TRUNK ROAD VERNACULAR

The familiar cast-iron signpost (photograph at top of next page), widely used throughout England and Wales, is a goodish example of the utilitarian object in which conscious design has played little part. But if—as we must—we are to go beyond this in the matter of road signs, we need good precedents to live up to. Fortunately, they are not hard to find. There are some admirable ones in Cornwall—as might be expected in a county where the sea and the functional tradition of the sea coast is never far distant. The material of these Cornish



milestones is granite, painted white. But not necessarily white all over: as the example illustrated on the cover of this issue shows, surfaces that do not have to carry lettering are left natural, and this adds considerably to the charm of the stones as objects in their own right. The lettering is bold and legible even from a moving car, and ambiguity as to direction is resolved by arrows. Alternatively, as in the examples below, direction may be

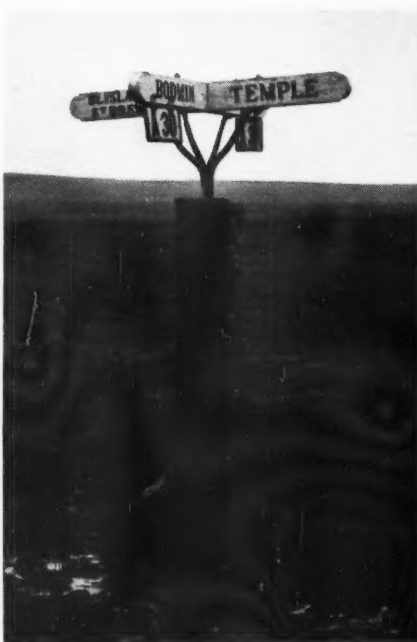


shown by hands. These are sometimes incised, sometimes carved in very low relief. Around [Bodmin] there are milestones in which the initial B is made to stand for the



name of the county capital—an economical and perfectly adequate convention.

Besides these milestones, Cornwall can show, on Bodmin Moor, a further development of the use of local material—the

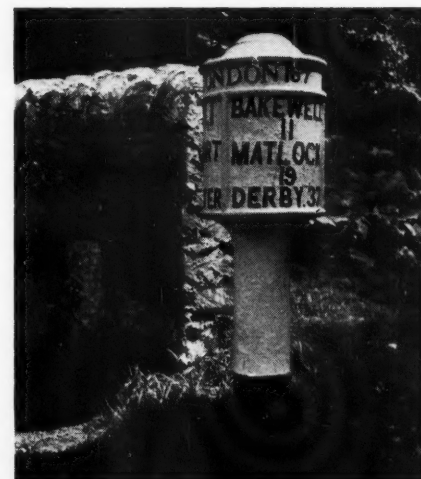


milepost transformed into a pillar of granite. This monumental solution obviously wouldn't do everywhere, but the principle of the thing, the use of stone for road signs in a stone country, is as valid to-day as it ever was. It is the more gratifying, therefore, to be able to show modern examples from the North and West of stone actually being so used. The sign from the North, illustrated on page 188 (left) is, true enough, pretty



weak—its lettering (above) doesn't compare with the fine, forcing sans serif of the nineteenth century milestone twenty yards away—but the general idea is 100 per cent right. And so is the one alongside it (page 188 again)—from another stone country, the Cotswolds.

Local conditions other than the availability of a usable stone may play their part in the evolution of road signs. On the Derbyshire moors, for example, an average fall of snow would bury any milestone of ordinary design. So cast-iron mileposts, between three and four feet high, are used



instead. They are excellent in general form and in detail, and anyone who has motored from Buxton to Macclesfield, for instance, will have been grateful for the elegant punctuation they provide.

Signs and symbols of warning or prohibition, if they are to be immediately recognizable and thus effective, must be standardized. But that is no reason why signposts, milestones and so on—informative signs in short—should be. These examples show that in the past there has existed a tradition of regionalism in such things which could perfectly well be carried on to-day. They also show that their makers had a sense of that indefinable quality called *style*, which so far has eluded the designers of most twentieth century signs: this is a case where the contemporary designer has not only a tradition but a stylish tradition to turn to—a stylish *functional* tradition. A perfect example in fact of 'functionalism' as an evolutionary rather than revolutionary dogma.

Andrew Hammer

CRUSADER CASTLES

CRUSADER CASTLES. By Robin Fedden. London: Art and Technica, 1950. 64 pages + 32 plates. 16s.

Mr. Fedden brings to his subject an intimate knowledge of the countryside in which the castles are placed, a happy if sometimes conventional turn of phrase and a careful study of the accepted authorities. His sixty-four pages of text allow little room for any new assessment of the castles and their place in crusading policy: they provide, however, a sensible introduction to their history. Here and there it is possible to quarrel with him on points of detail. The 'massive keep' at Kerak of Moab, if by this is meant the semi-octagonal tower of the south front, is certainly Arab not crusading work, probably that of al-Adil, possibly as late as Baibars. The rude masonry of the keep at Subeibe, early rapid work of c. 1130, hardly justifies its description as one of 'the most formidable works in the Latin kingdom.' There is a brief appendix dealing with Cyprus, but nothing on the castles of Antioch and the Armenian border. In his account of Saone, there is no mention of the lines of the Byzantine walls, which are so relevant a factor in the development of the castle, though he admits that the rock cut ditch is originally a Byzantine work. But in a brief survey of this type it is inevitably easy to find statements which from compression or selection of emphasis may seem misleading, and to stress them would be unfair to Mr. Fedden's carefully planned account.

Some wider, controversial issues underlie the scheme on which he has worked. To him the crusading castles are strategically placed: the military orders have 'every qualification for the guardianship of the castles, and particularly of the great frontier castles': the castles themselves 'acquired additional strength in being linked by an elaborate system of communication with neighbouring strongholds.' These are arguments where some re-thinking is required. In what sense does Krac des Chevaliers guard the Gap of Homs? The main road still follows the easiest route and Krac lies some eighteen kilometres to the north of it and does not overlook it. It could not, nor did it, prevent Moslem raids through to the coast. It was a garrison post to which forces could retreat, and it was the impregnability of its site that mattered, not its strategic placing. It might be, in Ibn al-Atir's phrase, 'a bone in the throat of the Moslems,' and its reduction was essential to any permanent reconquest, but its isolation and remoteness were part of its strength. The ford of Jordan on the way to Damascus was a strategic point of the first order, but it was not till 1178 that the crusaders built a castle there, a hurried, feeble building which was lost two years later. They seem, in fact, to have built their castles where castles already stood, and to have used former materials collected there for requirements different from their own, or not wholly different, for Krac as the Latin chroniclers noted stood above a

fertile valley, and there was 'maxima ubertas omnibus bonis.' To the crusaders the castles were the centres of wealth-producing fiefs and we find the Hospitallers complaining against one of their grandmasters that he wasted their resources by accepting the charge of castles on the Turkish frontier. Placed on the hilltops the castles saw in the distance the neighbouring strongholds: Krac was visible from Safita, and also, according to Lawrence, from Homs. This inter-visibility comes from the lie of the land and there is no evidence that it was consciously worked out.

In a volume such as this, whatever the merits, and they are considerable, of the introduction, the plates have an equal importance with the text. Mr. Fedden has made a skilful selection and prints many unfamiliar views. Some of the French air views from the collection at Beirut are particularly instructive and Mr. Aidan Philip provides a brilliant sharp angle view of the pillar at Saone, taken apparently from the roof of the keep. The architectural studies of Mrs. Wrinch and the Matson Photo Service are more familiar, but admirable of their kind: there is a fine photograph of Kyrenia, but the castle at Kolossi (surely never a 'keep' as it is here described) is shown in a poor plate that gives nothing of its quiet dignity and charm, and the great castle at Aleppo is even more poorly served. The coloured frontispiece is, fortunately, too unconvincing to be misleading. T. S. R. BEANE

INLAND WATERWAYS

BRITISH CANALS. By Charles Hadfield. Phoenix House. 16s.

THE INLAND WATERWAYS OF ENGLAND. By L. T. C. Rolt. Allen and Unwin. 21s.

THE CANALS OF ENGLAND. By Eric de Maré. The Architectural Press. 18s.

CANALS, BARGES AND PEOPLE. By John O'Connor. Art and Technica Ltd. 10s. 6d.

Canals do not differ from other human artifacts in requiring to be regarded half as means and half as ends. Canals are like buildings: they should warm the heart as well as contributing to the export drive. The best of them, in fact, were constructed in that fleeting period of the early Industrial Revolution when use and beauty perfectly equated, the period of Rennie's Waterloo Bridge and (still better) of Telford's London Bridge (deemed too rash a project and never erected): which period (to our consternation) they continue to embody for hundreds of miles up and down the country. 'Architecture in England,' recently remarked *The Times*, 'ended with the Shot Tower.' The canals, while offering all the virtues of that incomparable structure, differ from it in being still capable of life. Their present often moribund condition derives partly from the relentless aggression of the railway companies; but just as much from the indifference and narrowness of outlook on the part of the public and the authorities which have permitted that aggression so largely to succeed. It is characteristic that with the exception of Mr. Rolt's famous *Narrow Boat*, there is almost no substantial canal literature whatever: the customary attitude of ingrowing despair has cut off even works for the special-

ist. The four new books now under consideration may be thought of as forming an arc which, springing from a dust-heap of data, ends in a crock, not of gold, but perhaps of eupronickel.

Mr. Hadfield belongs to that alarming but increasing group of the community which likes things because they are dead. He subjects canals to that minute, slightly amused, slightly superior study which others have applied to such achievements of our ancestors as wax fruit or the equal franchise. He loses no chance of piling up evidence against each single waterway; not only have the waterways no possible future, but many of them would never have been constructed at all but for the ignorance and inexperience (now mostly quaint, however, and to be regarded charitably) which prevailed before the inevitable evolution of the planned welfare state. Mr. Hadfield even quotes with admiration the arch-railway advocate and special pleader, E. A. Pratt. *British Canals* does, however, contain a quantity of facts; though the matter is not very well systematized, and is far from being as comprehensive as the uninitiated might suppose. (For examples, there is almost nothing about the construction of that major navigation, the Rochdale Canal, one of the biggest in the country; and only a bare single mention of Telford's masterpiece, the Macclesfield Canal.) It will be gathered that Mr. Hadfield is little concerned with aesthetics. Of 1840 he writes: 'So ended the canal age. . . . By its means the Industrial Revolution had taken place, and the country now stood on the threshold of a new era—the Victorian age.' Of 1948 he writes: 'An era ends, and another begins.' These last words end the book; leaving the reader down among the dead men and the waterways awaiting their *coup de grâce* from the bemused bureaucrat. The book would be improved by attributions being provided for more than the present minority of the illustrations.

Where Mr. Hadfield likes to conceive the past in terms of *rigor mortis*, Mr. Rolt would like nothing better than for the present to resemble it (as he conceives it). Though his book doubtless contains fewer facts than Mr. Hadfield's, it contains far more information, and covers the whole field: from the history of the canals (with proper respect paid to the Rochdale) to the craft of making lock gates; from the sensations experienced when navigating Standedge Tunnel (as one of the party, the present reviewer can confirm the authenticity of the account) to the iniquity of the lost bridge-plates on the Staffordshire and Worcestershire. The navigational advice to novices is excellent and comprehensive; the not infrequent ghost and horror stories worthy the author of *Sleep No More*, the best modern collection of its kind. The account on pages 167-169 of why the canals are in a mess would be hard to beat for pith and clarity. Mr. Rolt writes with passion and has a point of view. Of his adored boaters he proclaims: 'If a man likes you he will shake you by the hand and call you friend and you will believe him. If he does not he may well crown you with his pint pot.' Mr. Rolt tends unawares to advocate a mediævalism which in practice and in essentials would be difficult to

distinguish from the totalitarianism he so abominates, and he completely fails in appreciation of the Renaissance, not understanding that the mighty Brindley and Telford (to say nothing of the Duke of Bridgewater) were belated Renaissance pioneers; but his philosophy, his concern for the spirit, always in this book are living and admirable. The book is excellently produced, well illustrated (largely from photographs by Angela Rolt), and adorned with a lively coloured reproduction of Miss Barbara Jones's well-known painting 'Sunny Valley.'

Mr. de Maré is very properly concerned first with beauty and second with the future. His must be the best canal photographs ever taken. He brings to the waterways that breadth of imagination which is so desperately needed. His book, moreover, charmingly insinuates a startling quantity of information; and also contains a valuable and comprehensive glossary of facts and recommendations, taking each waterway in turn. Mr. de Maré is manifestly the artist in his entire approach to life; that is (as Shelley frequently pointed out) one of the few men qualified to deal with practical affairs. His word should be heeded; and also the word of Sir Alan Herbert who contributes a fighting Foreword, which is a model. A disadvantage of the book is that too much of it could more properly be entitled 'Some Narrow Canals of England'; but the reader who is not fascinated by it deserves to be set to hard labour for the British Transport Commission.

With *Canals, Barges and People* we enter Cloudeuckooland. Mr. O'Connor's gentle reminiscences are in the spirit of Jules Barbier's *Salut! demeure, chaste et pure*. His wood engravings are neither chaste nor pure: they are darkly inaccurate. The frontispiece is entitled 'Locking on the Oxford Canal': but shows a double lock, whereas the Oxford Canal has single locks only; and shows bottom gates, moreover, which are slung in reverse so that they could never hold water. The book, unlike any of its three companions, has received a long (and favourable) review in the *Daily Worker*. None the less, it is mild to a fault; and sweetly misleading as October sunshine or parental love.

Of the four books only Mr. de Maré's bestows more than the barest mention upon The Inland Waterways Association, which has done so much to revive the long despaired of invalid (and to provide these authors with a market).

Robert Fordyce Aickman

WEST INDIAN GEORGIAN

TREASURE IN THE CARIBBEAN. By A. W. Acworth. Pleiades Books. 12s. 6d.

The title of Mr. Acworth's book is, perhaps, a shade romantic for its subject, which turns out to consist of the exceedingly tattered remnants of such Georgian architecture as the tide of Empire has deposited on the shores of the West Indies. Nevertheless, treasure of a real sort this is, by virtue of its singularity and, occasionally, its beauty; and it would be difficult to claim that an eighteenth century verandah in, say, Doncaster or Devizes has quite the same aura as an eighteenth century

verandah in Trinidad or Tobago. Distance, after all, lends something.

Mr. Acworth calls his essay a 'First study' of the subject and leaves open to his successors an attractive vista of academic problems—problems which may well earn a few PhDs for art-history students (if any) of the new West Indies University. For instance, there is the Rodney Memorial (c. 1785) at Spanish Town, with its colonnade and pavilion sheltering the admiral's statue. You could search Great Britain and find nothing remotely like it—except, indeed, an engraving in Kent's *Designs of Inigo Jones*. If that is the answer, there lurks somewhere, perhaps in the Public Record Office, perhaps in the Jamaican archives, a nice fragment of the history of Palladian architecture. Less recondite is the neighbouring King's House whose noble Ionic portico seems to come from a more obvious source—either Gibbs's *Book of Architecture* or, more probably, Robert Morris's *Select Architecture* of 1757, which would be newly published when the building was conceived. It is Gibbs, certainly, who bears the ultimate responsibility for the 1750 Court House at St. John's, Antigua, for Gibbsian quoins and architraves are sharply rendered in Mr. Acworth's photograph. Another nice problem is the Palladianism of Barbados where, as it happens, no less an upholder of the style than Sir Thomas Robinson (who did his damndest to Palladianize Castle Howard) was Governor from 1742 to 1745 and is known to have designed certain public works. Can the fine stone-built Principal's House at Codrington College be one of these?

More strictly local, and less easily soluble, problems attend the history of what one might call (borrowing an apt remark of Mr. Acworth's) the 'bed-post architecture' of the West Indies, a wooden architecture in which elongated balusters do most of the vertical work while the horizontals tend to include excessively flattened elliptical arches. It is all very un-English but possibly not un-Southern-American.

Mr. Acworth's charming photographs show buildings which, in many cases, seem to deserve better maintenance than they are getting. One would like an assurance, for instance, that the British Administration is not going to leave the King's House at Spanish Town the gutted shell it has been since 1925. Buildings, as we are always taught, are symbols and a portico with nothing behind it is not the happiest of symbols of Imperial dignity!

John Summerson

EXPERIMENTS IN SPACE

MOHOLY-NAGY: A BIOGRAPHY. By Sibyl Moholy-Nagy. Harper. \$6.50.

Glancing at random through the eighty-one illustrations of Moholy-Nagy's work—ranging from a representational pencil portrait to an inverted sculptured curve in Plexiglass—it would be tempting to dismiss this Hungarian artist as a phoney. Reading the book and recalling a few meetings with the man himself in the mid-thirties, when he lived in England for a while, I am impressed by the ceaseless devotion he paid to his search for the repre-

sentation of light and motion. His work as a painter, and later as a photographer, has been in my opinion overestimated. His inventive mind is perhaps best expressed in such a fascinating contrivance as his Light-space Modulator, designed and built between 1922 and 1930, which he carted with him on his travels despite arguments with baffled customs officials. Adapting his mercurial mind to problems of publicity and presentation, his work for Simpsons the Piccadilly store, for the Parker Pen Company in America and for various industrial exhibitions, Moholy (as he was widely known) definitely set a style that has had many imitators.

This finely printed and produced biography traces his life and work from the early days in Budapest, when he was called up to fight on the Russian front, through his years as master of the Metal Workshop at the Bauhaus whither Gropius had invited him in 1923, the period of exile in Holland and London, and so to the final years in the United States. In Chicago a new Bauhaus and an Institute of Design were both economic failures, though the blame cannot be put as Moholy's responsibility. His tragic death on November 24, 1946, must have come as a complete surprise to all but his wife.

Perhaps Moholy's greatest gift, apart from being a charmingly persuasive and plausible talker, was his ability to seize on a new material and bend it to his purpose. Chromium-plated steel, plastics of every kind, glass, sensitized paper, celluloid—all these materials had a fascination for him. What he did with them would seem to be more important than his complex theories of light, form and vision as to why he did it. Moholy was a good craftsman in these new media; he was merely adequate in the more explored worlds of painting, photography and the film. His Gypsy film, which I remember well, is no more impressive to me because of its description in this book: 'The unifying element which demonstrated a peculiar visual pattern in a peculiar physical environment was the group impetus towards spontaneous action resulting from common stimuli.' That bit must have been added after I saw the picture. Similarly his film with John Matthias about lobsters (which I resaw only a month or two ago) demonstrated no especial originality or skill in photography.

No, it is as an inventive manipulator of materials that Moholy will be remembered. Many shop-window designs, many posters and photomontage decorations undoubtedly owe their inspiration to him. His coaxing of business-men to allow him to experiment opened the way for others. His work, varied and always experimental, was never dull. Walter Gropius in his introduction has this to say of him:—

'His greatest effort as an artist was devoted to the conquest of space. His genius ventured into all realms of science and art to unriddle the phenomena of space and light. In painting, sculpture and architecture, in theatre and industrial design, in photography and film, advertising and typography, he incessantly strove to interpret space in relation to time, that is, motion in space.'

That puts it very well.

Paul Rotha

The Lights of London

'I was astonished at the admirable manner in which the streets are lighted up; compared to which our streets in Berlin make a miserable show. The lamps are lighted whilst it is still day-light, and are so near to each other, that even on the most ordinary and common nights, the city has the appearance of a festive illumination, for which some German Prince, who came to London for the first time, once, they say, actually took it, and seriously believed it to have been particularly ordered on account of his arrival.'

(CHARLES P. MORITZ, 1782).

'We strolled up and down lovely Oxford Street this evening for some goods look more attractive by artificial light. Just imagine a street taking half an hour to cover from end to end, with double rows of brightly shining lamps, in the middle of which stands an equally long row of beautifully lacquered coaches, and on either side of these there is room for two coaches to pass one another and the pavement, inlaid with flag-stones, can stand six people deep and allows one to gaze at the splendidly lit shop fronts in comfort.'

(SOPHIE V. LA ROCHE, 1786).

'The gas-illumination of London is so beautiful that M. Sismondi had good reason to say that in London, in order to see, you must wait till night. The place of St. Antonio, at Cadiz, on a starry summer's evening—the noisy Strada Toledo of Naples, silvered by the moon—the Parisian Tivoli, blazing with fireworks—none of them can sustain a comparison with the Regent Street of London, lighted by gas.'

(GIUSEPPE PECCHIO, 1826).

(From *William Kent, Mine Host London*. Nicholson & Watson, 1948).

MARGINALIA

This Month's Anthology

Londoners who have been plunged into a state of depression by the present ban on display lighting and the gloom it has cast over Piccadilly Circus and elsewhere, may care to be reminded that bright lights were not always a feature of even important shopping streets. The extracts above indicate the surprised enthusiasm with which their first appearance was greeted. But by now they have become an essential ingredient of the urban scene; essential if only because—at least in the case of Oxford Street—when one has lights to look at one need not look at the architecture. The ban is due to be lifted in May, and the return of the bright lights will again, no doubt, be greeted as enthusiastically as the extracts above record.

The Georgian Group Conference

The proceedings of the conference held by the Georgian Group at Leamington in the autumn, which have now been printed, are a record of a worthwhile job well done. The conference, whose purpose was to consider the results of legislation enacted to protect historic buildings and to see whether and how it could be

improved either by amendment of the law or by administrative reforms, was well attended by delegates from county, borough and county borough councils and various national and local societies. The Ministries of Works and Town and Country Planning were also represented.

At the first session a paper was read by A. W. Acworth, the Group's honorary secretary, on 'The Technique of Protection: Listing and Building Preservation Orders.' After summarizing the position regarding the listing of buildings of special architectural or historic interest under the 1944 Town and Country Planning Act, Mr. Acworth suggested that the periods of notice to be given before a listed building could be demolished or altered should be increased from the present two months to six months and three months respectively. (A resolution expressing this opinion was approved by the conference.) He went on to deal with the possible ill effects on buildings which are provisionally listed or due to be provisionally listed, but which are not yet statutorily listed, of the recent release of building owners from the need to obtain planning consent for small alterations or additions to their properties; for in the past, he pointed out, local authorities had had a check on what was done to buildings of architectural importance through their planning powers without reference to the special provisions relating to such buildings

in the Act. Turning to the subject of Building Preservation Orders, he said: 'There is a school of thought which holds that a BPO is a weapon of last resort. This attitude seems to me to be quite mistaken. There is certainly no authority for it in the Act. BPOs are treated in Section 29 which begins: "If it appears to a local planning authority that it is expedient to make provision for the preservation of any building of special architectural or historic interest in their area."'

At subsequent sessions papers were read on 'Repairs to Listed Buildings: Financial and other Problems' (D. B. Peace, Assistant Planning Officer, Stafford County Council), 'Listed Buildings in their Setting' (J. W. R. Adams, Kent County Planning Officer), and 'The Conversion of Terrace Houses' (J. G. Wilkinson, Planning Officer, Bath City Council). In addition to points raised in Mr. Acworth's paper, matters which formed the subject of resolutions approved by the conference included the setting up of an Historic Buildings Council (as recommended by the Gowers Committee) as soon as possible, arrangements for the training of architects and craftsmen in the treatment of old buildings, and the need to co-ordinate the siting and design of street furniture and relate it properly to its setting and in particular to listed buildings.

Travel Centre in Piccadilly

The architects for the Travel Centre in Piccadilly illustrated in last month's issue should have read 'James Cubitt and Partners in association with Sergei Kadleigh, consultant architect to Messrs. Cockade Ltd.'

Festival Type

The important art of typography is not well served by the special display type designed for the publications and advertisements of the 1951 Festival. Here is a specimen of it. Readers will

THE FESTIVAL OF BRITAIN 1951

agree that it is mean in conception and completely undistinguished in form, having none of the robustness and character for which the fine English tradition of display faces is notable. A shadow type was chosen because it lends itself to various colour treatments, but seldom can a shadow type have been so lacking in vigour. A curious anomaly is the design of the O, in which the shadow is on the left of one side and the right of the other.

The failure on the part of the Festival to produce a well-designed type is especially puzzling, because of the existence, among the exhibition designers working in the Festival office, of a Typography Panel. This panel was responsible for the admirable booklet, recently distributed to architects and designers, which aimed at achieving an affinity of character between all the lettering used on buildings and signs throughout the various Festival undertakings. It suggested a standard 'family' of alpha-

bets for this purpose, and reproduced such a series of **Roman** and

ITALIC alphabets, with
EXTENDED
CONDENSED

and **LIGHT** variations, based on an early nineteenth century Egyptian display face, showing how it could be applied in various circumstances. The suggestions were thoughtfully worked out, and the booklet was a model of intelligent guidance for designers.

The logical thing, when it was decided to cut a special alphabet for the Festival's printed matter, would have been to put it in the hands of the same Panel. In fact the Panel, it is understood, was not even consulted. The design was put, instead, in the hands of an advertising agency with the result illustrated, which cannot be regarded as a good advertisement of contemporary British design.

Bound Volumes

Owing to increased costs the price of binding copies of *THE ARCHITECTURAL REVIEW* will be raised from 18s. 6d. to 23s. 0d. per volume as from January 1951.

INTELLIGENCE

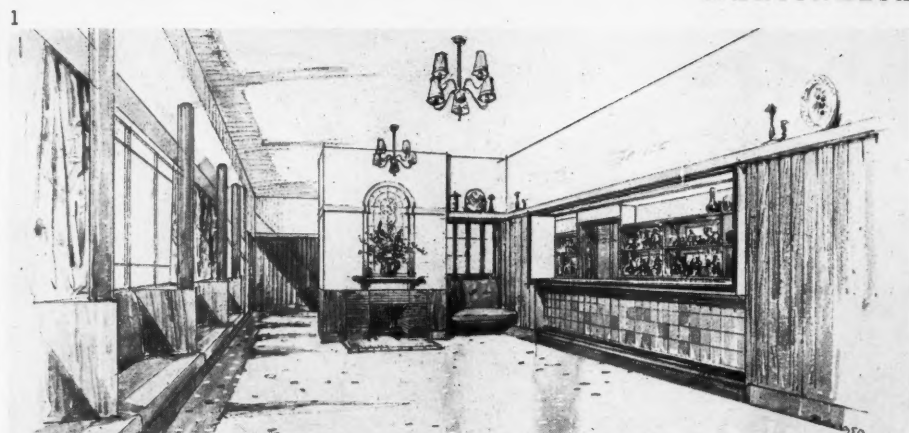
The Architects' Registration Council of the United Kingdom offer for 1951 certain Maintenance Scholarships in Architecture. Particulars may be obtained from The Secretary to the Board of Architectural Education, Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W.1.

The international competition held under the rules of the UIA for a new imperial palace at Addis-Ababa has been won by Hugo Brunner and Hermann Kiess, of Stuttgart.

The Rome Scholarship for 1951 will not be awarded as the Faculty have decided that the preliminary results do not justify their proceeding with the final stage of the competition.

EXHIBITIONS

In January flying saucers came to town—as one would expect, from America. It was a relief to find that their thousand-mile-an-hour velocity had been diminished somewhat by the low altitude of the Lefevre Gallery, in which they disported themselves. But they still had their little tricks. Impersonating flies, they would steal up behind you and tickle your neck; brushed off with an impatient gesture, they would retreat with an angry clatter and take a minute or two to settle down again into their more tintinnabulous normal courses. One has been told so often that Alexander Calder's mobiles reflect the machine age that one has come to accept the statement as true. But at best it is a half-truth. For when you come to



LIVE ARCHITECTURE? Designs were recently published of one of the public houses ('The Festival Inn') which is to occupy a corner of the market place at Lansbury (see pages 177—180). They are the work of R. W. Stoddart, architect to the brewers, Truman, Hanbury & Buxton, and are a sad disappointment in view of all that has been said lately about the value and the continuing validity of the English public-house tradition. These designs, of which one is reproduced above, appear to combine the bleakness of wide floor-spaces with the gentility of cautious 'good-taste,' both of which have been among the most depressing features of brewers' architecture in recent years. The interior will not be a good advertisement of English design in the year 1951, nor a helpful contribution to the *Live Architecture* exhibition in which the pub will be situated.

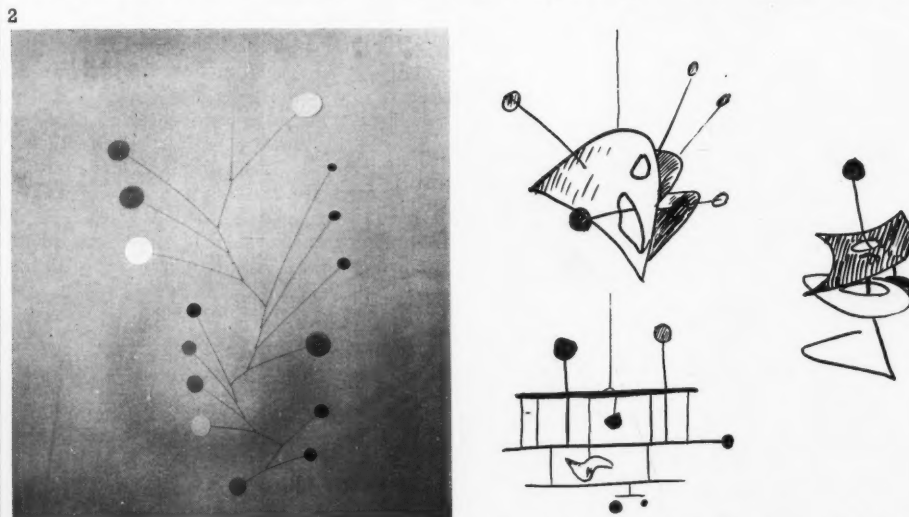
think of it, the whole point of nearly all *earthly* machinery is that it overcomes the force of gravity by the use of greater force, whereas Calder's method is to lead it up the garden path by the exercise of cunning diplomacy.

At the Institute of Contemporary Arts it was possible to carry research into the subject of flying saucers still further. For in some of the pictures of Matta one seems to be looking at the things in the process of manufacture, while others realize in visual terms the kind of commotion which must be caused in interplanetary space by their sudden passage; and certainly their little pilots were present in one picture. As this may suggest, there is at times a curious hint of 'our artist's impression' in the work of this pupil of Le Corbusier turned surrealist. (His full name is Roberto Sebastiano Matta Echaurren, and he was born in Chile in 1912). But all the same he is a decorator of some power, who could do with a few modern buildings to deploy his talents in.

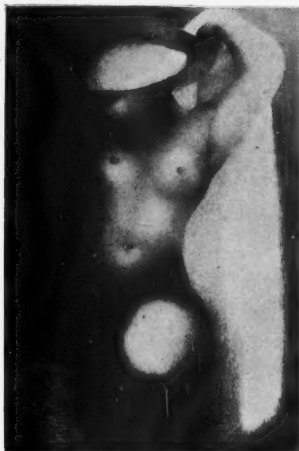
Incontrovertibly terrestrial, on the other hand, were the massive nudes in the drawings of Genia Green at the Hanover Gallery, which

as a strong contrast also offered a couple of wallfuls of the infinitely cultured creations of Robin Ironside. At the Redfern there was a show of the work of Sylvia Gosse (daughter of Sir Edmund and at one time Sickert's partner in his Hampstead Road school); this was one of the best displays of honest good painting by a single individual that London has seen lately. There were also drawings by Vera Cunningham and paintings by Sidney Nolan. Vera Cunningham is deeply involved with that underworld in which human and arboreal forms are subjected, not without pain, to a reciprocal metamorphosis. Nolan is an Australian in his middle thirties. On the evidence he is an uneven artist, but his big, harsh paintings of Central Australia will be remembered for some time.

People who thought they knew who was on which side of the iron curtain that hangs somewhere to the right of the centre of the British art world were a bit put out by the first news of the exhibition *L'Ecole de Paris*, 1900-1950, at Burlington House—and even more by the thought of Mr. Clive Bell sitting beside the



2, *Vigne Rouge*, a mobile by Alexander Calder from his recent exhibition of *Mobiles and Stables* at the Lefevre Gallery. On the right are three of Calder's drawings—bottom one is called *The Bleriot*.



3, Agricultural Hotel by Sidney Nolan, from his exhibition at the Redfern Gallery. 4, Kneeling Nude by Genia Green, from her exhibition at the Hanover Gallery. 5, Painting 1950 by R. S. Malla on exhibition at the Institute of Contemporary Arts.

President of the Royal Academy at an Academy dinner. Then to confuse them still further they had Mr. A. K. Lawrence, RA, telling them on one of the valuable pages of *The Listener* (February 1) that 'all great European art has resulted from the acknowledgment' of the principle 'that painting is a representational visual art, rooted in the conviction that the genuine artistic impulse is to create the illusion of reality, that is, visual reality, in a naturalistic style to the limits of the painter's skill and the possibilities of his medium'—a view which incidentally seemed to debar from immortality the specimen of Mr. Lawrence's own work reproduced on the same page, since he explained that in executing it he was intent on *expressing the idea of Leda as it existed in his visual imagination*.

But everyone must admit that in putting on so admirable an exhibition the Academy have amply atoned for the indiscretions of Sir Alfred Munnings. The self-imposed absence of Picasso no doubt made things easier for the selectors. And although it is to be deeply regretted on all other grounds, it certainly makes things easier for the visitor to the exhibition. With the *terribilita* of Picasso out

of the way, one can settle down to marvel at the other, so different, giant of the half-century, Matisse. Memory, by dwelling on Matisse's 'charm' or 'elegance,' has a way of trying to diminish his stature. But to be brought face to face with such paintings as *Le Peintre et son Modèle* or *Grand Intérieur Rouge* in the present exhibition is to realize again that no other painter of our times has succeeded so wonderfully in reconciling the claims of space with those of surface—that is, in painting pictures which are supremely decorative in two dimensions while making something more than sense when the third is apprehended too. There is no room here to copy out the whole catalogue of the exhibition. But the presence of the Douanier's vast jungle scene with the lion and the antelope in Gallery XI, together with works by Derain, Gris, Kandinsky, Mondrian, Braque (including a big and very sombre one of 1949) and others, should be recorded. Gallery X contains, above all, Matisse, with Bonnard, Vuillard, and Utrillo at his rare best. The Architectural Room is dominated by Rouault, with Chagall also much in evidence, and Villon and Gromaire less so by a picture or two. Gallery IX has Modigliani, as many as four pictures by Soutine,

three by Marquet, and others by Marie Laurencin, Vlaminck, Lhote, Dunoyer de Segonzac, and the modern primitives Bauchant, Bombois, Vivin and Vivancos. The most memorable contributions to Gallery VIII are those of Léger, Miro, Masson, Giacometti, and—some may find—Pignon and Lapicque; in Gallery VII contemporary abstractionism is the theme, with Le Moal, Manessier, Bazaine, Van Velde and others, and the whole story comes to a gentle end in no. 162, by Tal Coat.

CORRESPONDENCE

Man Made America

To the Editors,

THE ARCHITECTURAL REVIEW

DEAR SIRs,—Your admirable transcripts into foreign languages could usefully have been extended in December to include an English version of Mr. G. M. Kallmann's article. Can it be that you printed this shockingly written essay as another example of those sins against the light of which you accuse America?

A sentence:

'Rather than using an all purpose and thus always compromised instrument, it moves towards a system . . . which deals with the canalizing and focusing of gravitational energy employing structure as its tool, a system establishing comfort levels through the use of filter membranes and mechanical core, and thirdly a space articulating system canalizing the motion and rest relationship of man in space, establishing repose and stimulus situation through the position of specific objects, and standard foils in significant constellation.'

A phrase:

' . . . it articulates highway ribbons charged with a continuity of energy missiles.'

Words:

Scepsis, centrefield, repetitional, progressional, centristic, non-monological.

These are odd examples among very many. 'The right of being obscure,' said Ruskin, 'is not one to be lightly claimed; it can only be founded on long effort to be intelligible.' If your contributor, Sirs, is unwilling or unable to make that effort, I humbly suggest that in fairness to your readers you should do it for him.

Yours, etc.,

Herts.

LIONEL BRETT.

PS—May I at the same time congratulate you on your own summing-up, which seems to me masterly, in its violent way.

Mr. Kallmann writes:

It is a pity Mr. Brett dislikes my terminology so much that he has nothing to say about the contents of what was intended to be a provocative article. Being an admirer of his prose and sensibility as a critic I would have enjoyed his comments.

This, however, is not the point. I am not interested in literary merit. Rather do I attempt to use language as a tool for action. Not accepting outworn tools in design I am reluctant to employ them when defining design approach. Talking in the imagery of yesterday we are all too soon caught in yesterday's concepts.

Since my arrival in the USA I have become increasingly aware of the need for new design semantics. Equally I know the pitfalls of a new jargon or worse of pretentiousness.

About a year ago I brought to the REVIEW the stimulating papers of Mr. Richard Buckminster Fuller who uses a terminology which he regards as better geared to the particular quality of contemporary

awareness. The effort of having to listen and to understand other people's voices seemed to be too much for even the REVIEW public. Now the excellent 'Transformation I,' Wittenborn, New York, has published some of this material.

It seems to me that a greater degree of tolerance is asked of us all if we are to communicate with any seriousness, and as civilized people with each other.

The terminology objected to in my own case, was deliberately chosen and as such respected by the editors. In order that Mr. Brett should not chalk it up as another American 'atrocity' I would let him know that the expression 'centricity' was jointly coined with Mr. Lohse of 'Bauen und Wohnen,' Zürich, during a meeting last summer. Mr. Lohse does not speak a word of English.

To the Editors

THE ARCHITECTURAL REVIEW

DEAR SIR,—Mr. Gerhard Kallmann is to be congratulated for his stimulating contribution 'The Way Through Technology' in the special issue on America which you recently published.

His 'total shelter' concept in which the technological alchemist dissolves architecture to replace it with a chrystal world of 'tangible thought' is indeed inspiring. Mr. Kallmann, however, appears to subscribe to the view which so many of us as architects are prone to follow, namely that the Good Life and the Chrystal World can only be reached through the golden gates of Architecture. Until the Good Life can be visualized in terms of total unity—social, spiritual, visual, etc.—the role of the architect and engineer, it would seem, can make no more than a one-sided contribution to society.

The writer, over-concerned with plastic speculation and the mobility of ideas, seems to make little attempt to suggest a relationship between his proposed life-pattern and the individual. But perhaps the individual is also to suffer a metamorphosis beneath the autocratic spell of total technology? Franz Boas in his 'Changes in the Bodily Form of Descendants of Immigrants' has already suggested that certain modifications of human physique become detectable in modern technocratic societies. Whether man is capable of similar mental adjustments which inevitably must be necessary for the social pattern Mr. Kallmann intends, remains to be seen. If, however, he will forgive me for again quoting from his side of the Atlantic, the *Connecticut State Medical Journal* in September, 1945, reported Dr. Wm. Menninger as having said that 'one out of every twenty-two persons is destined to spend at least some part of his life in a hospital for mental diseases because of a psychosis.'

This obtains under contemporary conditions. Should such a state of affairs continue in the social transformation which Mr. Kallmann foresees, it may well be necessary to reconsider the function as well as the form which his buildings assume.

Yours, etc.,

Shenfield.

DEREK G. MANNING.

To the Editors

THE ARCHITECTURAL REVIEW

DEAR SIR,—A rousing 'Well done!' for your issue, Man Made America—at once a most critical and sympathetic analysis of the problems of environmental planning in the US today. As an American, I can heartily agree with several of your premises: that at one time America could afford the indulgence of such splendid anarchy as your pictures portrayed; that such time has passed, and that the time has come when America must decide what environment she wishes, if indeed she wishes to decide, rather than default. But if I am to accept the further premise that America is wealthy enough to create any environment she chooses—here permit me to 'wrestle with the Spirit, rather than the Redskins'—

I must take exception to the solution suggested by Mr. Kallmann in certainly the most challenging article of the issue.

That the *Unité d'habitation* is relevant to Marseilles, as is also, perhaps, the Skidmore, Owings and Merrill scheme to Chicago, I do not contest. But for the overwhelming number of American cities, such as the one chosen for the Yale case study, the solution of Kallmann, Corbusier, etc., is undesirable and 'un-American.' I use the term not as would a Congressional committee, but as the sociologist, and with reference to what has been thought to be desirable on the American scene.

The cellular uniformity of a 'slab' building speaks of the same uniformity in the lives of its occupants, the implication being that since human life is more flexible than the building programme, the former should yield. No gardens, no workshops, no back porches; in time, I am sure, the inevitable excrescences of daily life would spread as scrofulous a film over these seemingly inviolable blocks.

Eliminating the slab building as socially (though not necessarily esthetically) undesirable, I would substitute the planning ideal of Frank Lloyd Wright. Though originally based on an agrarian America which no longer exists, Wright's ideas have, nevertheless, a regard for variety in human life which the slab technique completely ignores.

Far from becoming outmoded, I believe that Wright's ideas are today more compelling than ever. It has become increasingly obvious that the 'need' for centralization—implicit in the development of greater New York—is largely a fiction.

May I add that I sense something rather ominous in Mr. Kallmann's criticism of the Aalto dormitory at MIT and the Noguchi table; as well as in his quotation from Chermayeff. I don't precisely know what Chermayeff means by an architect's making shelter a monument to himself, inasmuch as any successful building is inevitably just that, but I object to the implication that a building must be shelter and no more. As for Mr. Kallmann, I would remind him that a table is rarely simply a 'tool,' any more than is a dormitory simply a series of pigeon holes. Here my objection is on two levels. In particular, Aalto's building is a distinct asset to the Charles River front. In general, we see good design today so seldom, I would hesitate ever to call it out of place.

Yours, etc.,

St. John's College,
Cambridge.

R. W. DUEMLING.

To the Editors

THE ARCHITECTURAL REVIEW

DEAR SIR,—In the December issue of THE ARCHITECTURAL REVIEW I notice a reference to San Francisco as the supreme example of unwise use of the grid pattern. Whilst the use of the gridiron plan in the hilly quarter of the city is illogical and unsuitable I would like to point out that a most interesting visual effect has nevertheless been achieved quite accidentally.

In many places on Nob Hill and Russian Hill the streets are very steep—so steep as to require the retention of delightfully antiquated cable cars for the ascent. Where these steep streets are crossed by others in the grid running at right angles they suddenly flatten for the width of the crossing, after which they abruptly start their sharp climb again. Consequently on looking back down the hills one gets the impression of standing on a series of steeply stepped terraces. The streets take on the appearance of vast ramps broken at intervals by breathing spaces or landings.

On a recent visit to the United States I was more impressed by San Francisco than by any other American city, and I believe that the unwise layout gives it tremendous quality and character. In its switchback streets one can enjoy the conflict

between relentless American planning and unyielding nature.

Yours, etc.,

Oldham.

JOHN SUTCLIFFE.

Canons of Criticism

To the Editors

THE ARCHITECTURAL REVIEW

DEAR SIR,—Dr. Pevsner, in his article, 'Canons of Criticism,' says: 'without urgency . . . in the deeper sense of a direct application to present-century thought and feeling, there can be no fulfilment in art or architecture.' A fourteenth-century rood-screen, built in the twentieth century, 'is not ours,' and therefore 'moves with a borrowed appeal.'

Is it impossible, then, to judge a building objectively—for its design, the way in which it fulfils its function, its technical achievement, its appeal to the eye? Does it matter so much (or will it after 50 or 100 years) to the viewer, the date at which it was built, and whether or not it made a conscious effort to 'express' the feeling of its age? (In any case, whatever style it chooses, it will inevitably show evidence of its date—just as a Victorian building is Victorian, however Gothic it attempts to be.)

Theoretically, I can see no reason why a building, Gothic in character, should be any the less beautiful built in the twentieth century, than in the nineteenth, eighteenth or fifteenth, provided it were well designed and well executed (which—with prevailing techniques and economical conditions—it is not so likely to be. This, if any, should be the real reason for disapproving it). To-day some of us might justifiably think it to be out of touch with contemporary feeling, but does this matter so much? In a hundred years it can join others of previous ages and be judged chiefly on its merits as a design. We should not allow the appeal to the eye (i.e., the mind) to be prejudiced by ideas about conscious self-expression of the times—ideas which are themselves a product of an over self-conscious age.

Yours, etc.,

Liverpool.

E. DUCK-COHEN.

Professor Pevsner writes: *I thought I had answered most of Mr. Duck-Cohen's questions in my article. Yes, it should be possible to judge a building objectively for its fulfilment of function and its technical efficiency. But for its appeal to the eye—no, not objectively.*

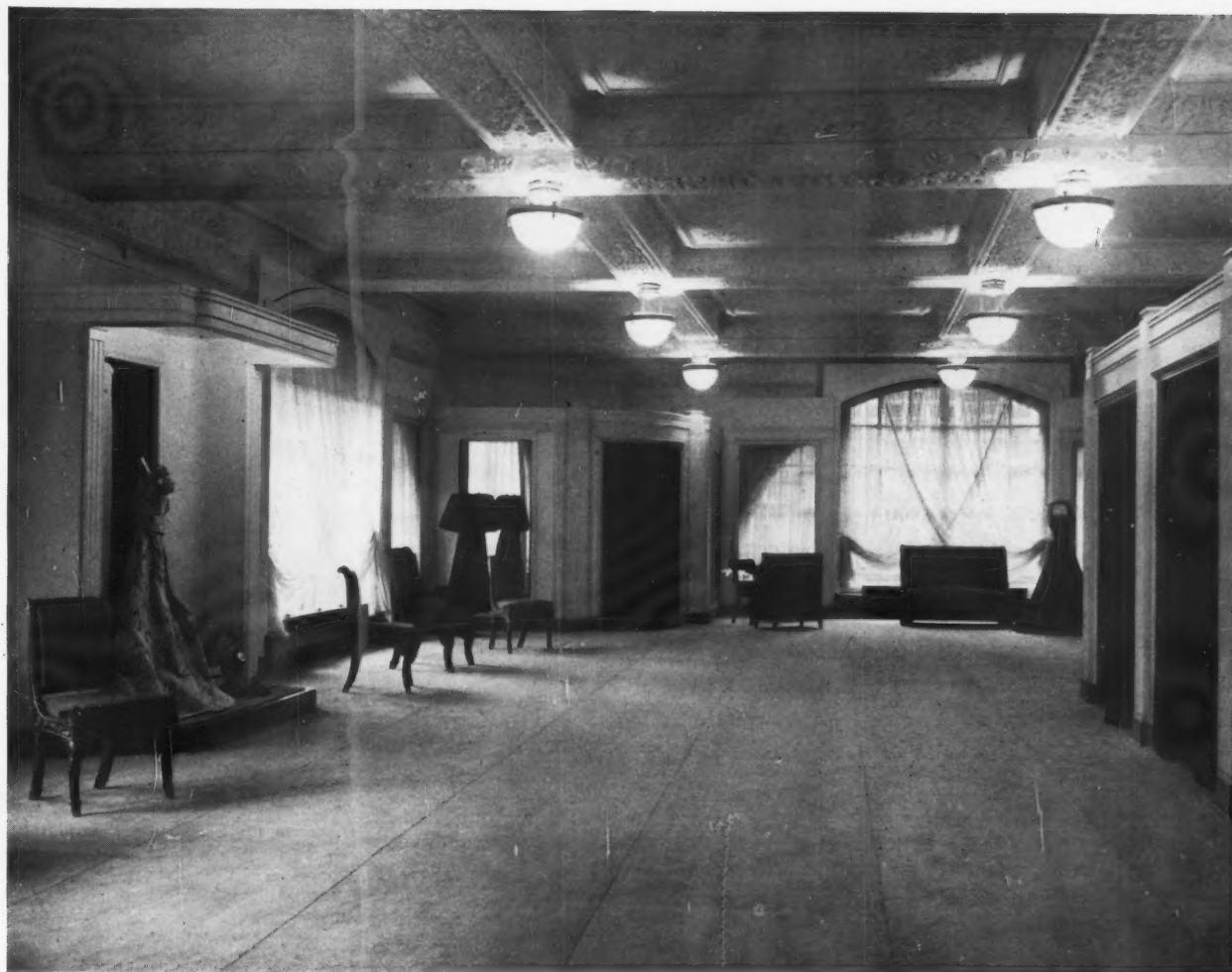
The difference between the Victorian Gothic and today's Gothic is that the nineteenth century had no style without period disguise, while the twentieth century has. That is what distinguishes our age also from the Renaissance. The Early Renaissance may have had the option between the established Gothic and the new Roman, but no period before ours has had the option between various styles inspired by the past and a style in all its forms independent of the past. Here, I think, lies the reason why period imitation and inspiration could attract the most vigorous designers of the fifteenth to nineteenth centuries, but is so lifeless today. I admit that vitality is a criterion not easily defined. Yet it is the one according to which in a hundred years critics will judge between strong and feeble. Vitality is not a matter of conscious self-expression or self-conscious expression of a Zeitgeist, but of the honest expression of one's own character in its own idiom and of the completely unselfconscious rootedness in one's own age.

TRADE & INDUSTRY

Gas Hearth Fire

The makers of 'Portcullis' gas heating

[continued on page 198]



The Gainsborough Room—extension to the Model Gowns Section of Messrs. Debenham & Freebody Limited, London—was designed and constructed by George Parnall & Co. Ltd. It is characteristic of the many attractive and successful schemes that have been achieved, frequently in co-operation with leading Architects of Stores and Public Buildings,

throughout the country. A true appreciation of the tradition of craftsmanship and of the highest standards of contemporary design is the basis of all work carried out by George Parnall & Co., and has been responsible for the confidence placed in them over the vast field of pre-war and post-war planning and reconstruction.

GEORGE PARNALL

Design and Craftsmanship

GEORGE PARNALL & CO. LTD. 4 BEDFORD SQUARE LONDON W.C.1

continued from page 196]



6 The new 'Camelot' (see note Gas Hearth Fire on page 196).

equipment have for many years maintained a high standard of design in their fittings. The 'Camelot,' their new model introduced recently, is designed to meet the demand for a low-priced gas hearth fire, but to provide at the same time the essential qualities of high radiant

efficiency. The design of the fire is in line with the aforementioned policy, though certain refinements such as an automatic lighter and integral tap have had to be omitted in order to achieve the moderate price. The firm's Neat burner provides for silent operation and minimum maintenance, since it is designed to exclude dust and fluff from the jets. The radiants are of the flat type with vertical ribs which add considerably to the attractive appearance. The fire is finished in beige stove enamel and fitted with a Birmabright reflector and a guard can be supplied if such an extra is required. Dimensions: height, 26 inches; width, 19 inches, to fit a minimum wall opening of 19½ inches in height and 12 inches in width. Prices are in the £7-£9 range.

Bratt Colbran Ltd., 10, Mortimer Street, London, W.1.

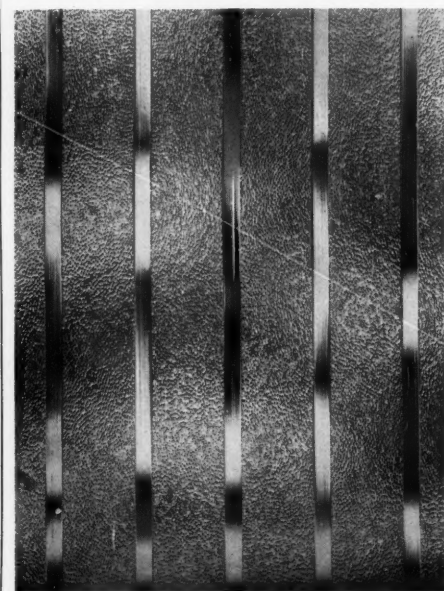
Double-glazing Units

Whether one is trying to shave before a steamed-up bathroom mirror, drive a car with a fogged windscreen or, less dangerous to life and limb, endeavouring to do a little window-shopping, condensation can be a most trying and irritating thing.

Double-glazing systems, and in more awkward conditions, multiple-glazing systems can be a most effective counter to this trouble in a variety of circumstances, if indeed they do not as yet assist one's shaving or driving.

'Insulight' double-glazing units, produced by Pilkingtons, are hermetically-sealed window units, comprising two panes of glass separated

by a metal spacer and a cell of dehydrated air. The cell of stationary air between the two panes retards the transmission of heat and sound between the external surfaces of each pane, while the two thicknesses of glass provide additional sound insulation. Besides restricting condensation and stopping cold down-draughts, it will be seen that they also reduce heat losses by providing thermal insulation, and so save fuel.



7, the new 'Pinstripe' figured rolled glass (see page 200).

[continued on page 200]

"unad"

Regd. Trade Mark

LOUNGE · DINING ROOM · STUDY · LIBRARY · BEDROOM · BED-SITTING ROOM · OFFICE · SHOWROOM



This is the first really Comprehensive range of Contemporary furniture produced in this Country. It comprises 27 different pieces. Placed together as unit furniture or used as individual pieces, they look equally well. Only in four of the pieces does Purchase Tax apply. **Illustrated Brochure available.**



To the Contemporary range—so well received—has now been added upholstered furniture of unique design including three designs in high and low back armchairs and settees.

STORYS
OF KENSINGTON

STORY & CO. LTD. (Contemporary Showrooms) 7 Kensington High Street · London, W.8
Tel. WEStern 0825



in the home

As an aid to the Architect, FORMICA is far more than a decoration. A rigid laminated plastic board of immense strength, FORMICA provides PERMANENT beauty on vertical and horizontal surfaces. It is easily and speedily fitted and is unaffected by boiling water and acids or alkalies normally used in the kitchen. A wipe with a damp cloth is the only maintenance required.

FORMICA FEATURES

- **HYGIENIC**
no pores to hold dust or germs.
- **PERMANENT**
stays new-looking always.
- **EASILY CLEANED**
normally a wipe with a damp cloth is all that is required.
- **HARD WEARING**
resistant to abrasion.
- **HEAT RESISTING**
withstands temperatures up to 120° C.
- **ECONOMICAL**
first cost is the last cost.

**Modern kitchen, with wall panelling and cabinets in blue and grey linette 'Formica'. Fabricated by Permatops Ltd.*

FORMICA is available in a range of fade-proof colours to suit every decorative scheme. Please write for technical details and comparative costs.

THOMAS DE LA RUE & CO. LTD. (Plastics Division), Imperial House, Regent Street, London, W.1

'Formica' is a registered trade name and De La Rue are the sole registered users.

continued from page 198]

This factor can be quite considerable when one considers the large areas of glass in the external walls of modern buildings. Moreover, there is still only one inside and one outside pane to keep clean, and that maintenance is considerably less with condensation eliminated.

The heat transmission figures which the manufacturers provide on this subject are enlightening. The average transmission of a single glass window is 1.00 BThU per sq. ft. per hour per degree Fahrenheit. When two glasses are used, maximum insulation is obtained by using $\frac{3}{4}$ in. space, and the conductivity drops to 0.50 BThU. $\frac{1}{2}$ in. space gives 93 per cent efficiency and conductivity 0.54 BThU. $\frac{1}{4}$ in. air space (which allows the manufacture of a thickness of unit convenient for normal glazing) gives 88 per cent of the effect of $\frac{3}{4}$ in., so that conductivity is 0.57 BThU.

Double-glazing units are therefore valuable for industrial and office buildings, particularly where controlled heating systems are installed. They also serve to keep premises cool in summer.

Triple, quadruple and quintuple glazing units are also manufactured. These are used where a higher degree of insulation is necessary, for example, refrigerator showcases and for the glazing of special thermally controlled laboratories.

'Pinstripe' and 'Hammerstripe'

The same manufacturers have recently announced the marketing of two new figured rolled glasses, known as 'Pinstripe' and 'Hammerstripe,' with a diffuse light transmission of 82 per cent.

Pilkington Brothers Ltd., St. Helens, Lancashire.

Booklets Received

Satchwell Temperature Control is a complete guide to the thermostatic control equipment for cookers, immersion heaters, room temperature maintenance, oil valves and many other purposes, produced by the Rheostatic Company Ltd., Slough, Bucks.

The Use of Aluminium Alloys in Structural Engineering is an introductory survey, not a text-book, which states the case, from the technical and economic point of view, for the use of aluminium in the structural field. Leading examples are described and illustrated, including the Dome of Discovery and the first aluminium bascule bridge. The notes are concise but cover the chief factors affecting design, such as deflection under load, working stress, strength in compression. Publication No. AB/6, price 2s. 6d., published by the Aluminium Development Association, 33, Grosvenor Street, London, W.1.

Lighting Equipment is a catalogue, illustrated and providing basic technical data on the fittings manufactured by Courtney, Pope (Electrical) Ltd., Tottenham, London, N.15.

Notices. The following firms have recently been elected members of the English Joinery Manufacturers' Association: Kerridge (Cambridge) Ltd., Cambridge; James H. Pullin & Co., Ltd., Shoreham-by-Sea; A. Sheaf & Sons, Ltd., Bromley, Kent; C. H. Whitehouse, Ltd., Frant, Sussex.

CONTRACTORS etc

Flats at Rosebery Avenue, Finsbury. General contractors: William Moss & Sons. Sub-contractors:

Reinforced concrete: J. L. Kier & Co. Heating, hot water supply and plumbing: G. N. Haden & Sons. Electrical work: Berkeley Electrical Engineering Co. Garchey system of refuse disposal: Matthew Hall & Co. Lifts: Hammond & Champness Ltd. Windows: Williams & Williams Ltd. Sanitary fittings: Dent & Hellyer Ltd. External tiling: Carter & Co. Metal door frames: Morris Singer Co. Facing bricks: J. & W. Henderson Ltd. Concrete window surrounds: Liverpool Artificial Stone Co. Concrete balcony panels: Girlings' Ferro-Concrete Co. Cast-iron balcony panels: Walter Macfarlane & Co. Radio aerial system: E. M. I. Sales & Service Ltd. Roofing and asphalt: Permanite Ltd. Asphalt floors: General Asphalt Co. Wood block floors: Horsley Smith & Co. (Hayes). Door furniture: Parker Winder & Achurch Ltd. Cell concrete insulation: Christiani & Nielsen Ltd. Terrazzo fireplace surrounds and wall lighting: Art Pavements & Decorations Ltd. Lightning conductors: R. C. Cutting & Co. Radio masts: J. W. Gray & Son. Gas supply: Gas Light & Coke Co. Electric supply: London Electricity Board. Wrought iron work: Haywards Ltd., Clark Hunt & Co., H. & C. Davis & Co. Planting and turfing: Tuck & Ballard.

Factory at Duxford, Cambridge. General contractors: Gee, Walker & Slater Ltd. Main contractors for structural steel and aluminium: English Bridge & Structural Engineering Co. Sub-contractors: Roads, foundations and services: Messrs. William Sindall. Subsidiary works: W. A. Dawson Ltd., Harding & Sons. Patent glazing: British Challenge Glazing Co. Steel windows: Williams & Williams Ltd. Steel deck and roofing: Ruberoid Co. Sanitary fittings: William E. Farrer Ltd. Ironmongery: Dryad Metal Works Ltd. Electrical work: Rashleigh Phipps & Co. Heating services: Sulzer Brothers Ltd. Cell concrete: Celcon Ltd. Cork lining: Alpine Insulation Ltd. Sliding door gear: British Trolley Track Co. Rubber flooring: Messrs. L. Fishburn. Handrailing and steel floors: Grill Floors Ltd. Plastering: W. A. Telling Ltd. Painting: Lees (Shelford) Ltd. Hollow tile roofs: Flooring Contracts (London) Ltd. Asbestos cement and building materials: Travis & Arnold Ltd. Quarry tile floors: A. H. Herbert Co.

Church at Lawrence Weston, Glos. Contractors: Hayward & Wooster Ltd. Sub-contractors: Concrete

[continued on page 202]



CANTERBURY CATHEDRAL

Rood Screen and Nave Altar

The screen was built by PRIOR THOMAS CHILLENDEEN at the end of the 14th century.

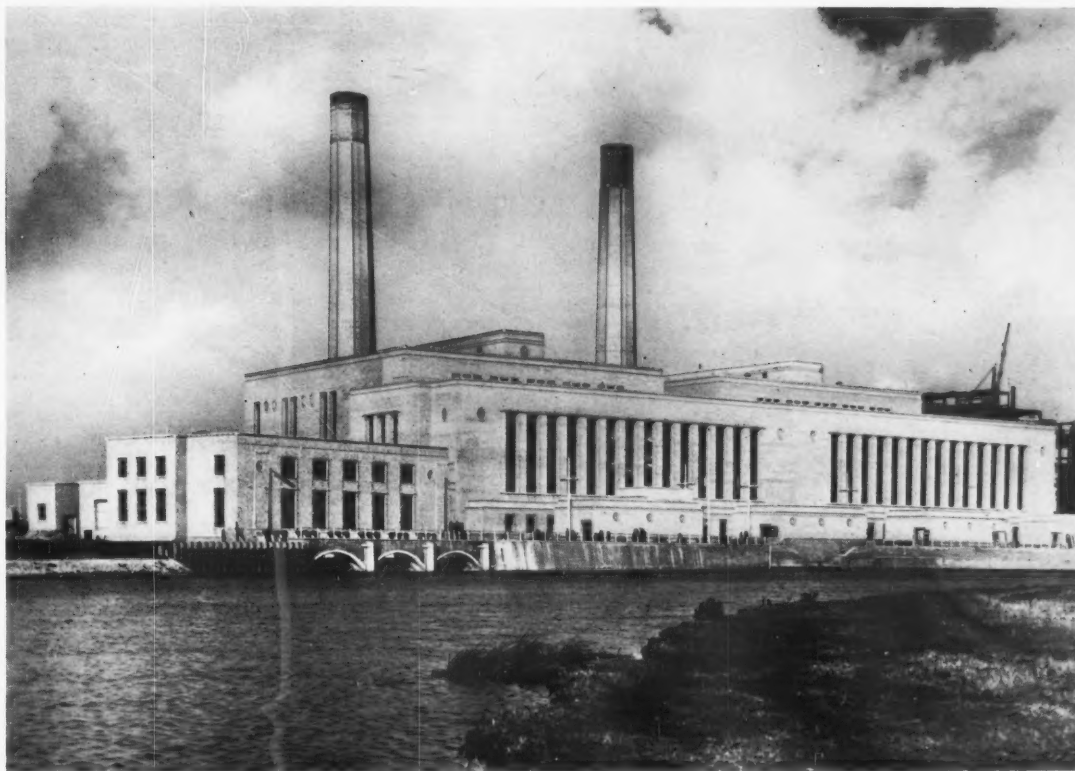
It is illuminated by 6—200 watt lamps enclosed in 2 specially designed bronze floodlight fittings.

The flower vases on each side of the Nave Altar are illuminated by 4—150 watt lamps enclosed in 2 similar bronze fittings.

Installation by:

Drake & Gorham Ltd.

36 GROSVENOR GARDENS, LONDON, S.W.1.
ALSO MANCHESTER · HEREFORD · WINCHESTER



STAYTHORPE POWER STATION, NOTTS

T. CECIL HOWITT, *F.R.I.B.A.*

BALFOUR, BEATTY & CO. LTD., *ENGINEERS*

HOPE'S WINDOWS

HENRY HOPE & SONS LTD

SMETHWICK, BIRMINGHAM AND 17 BERNERS STREET, LONDON, W.1

continued from page 200]

shell: Barchild Constructions Ltd. Windows: Williams & Williams Ltd. Patent aluminium glazing: Mellows & Co. Lighting fittings: Merchant Adventurers. Roll-up curtain: John Wood & Sons. Wiring: Blackmore & Nation. Heating: Bristol Gas Co. Furniture: Hayward & Wooster Ltd. Furnishings: Hancock & Co. Garden work: K. Smith. Floor: Western Trinidad Lake Asphalte Co.

Nurses' Home at St. Helier, Jersey. General contractors: Jersey Contractors Ltd. Quantity surveyors: Wallace Chapple & Partners. Sub-contractors: Demolition, excavations, chimney stack, fitted bedroom cupboards: Jersey Contractors Ltd. Bore holes (soil tests): Le Grand, Sutcliffe & Gell Ltd. Piling: Franki Compressed Pile Co. Reinforced concrete, frames, floors and roof slabs: The Trussed Concrete Steel Co. Granite faced blocks, precast concrete windows, linings, copings, etc.: Jersey Granite & Concrete Co. Hollow partition blocks ('Phorpres'), window-cill tiles ('Langborough'): Normans Ltd. Asphalt: Rock Asphalte Co. Roofing ('Paropa'): Frazzi Ltd. 'Ruberoid': Ruberoid Co. Metal windows, lightning conductor, railings, etc.: Gardiner Sons & Co. Glass, glass bricks and roof domes: Pilkington Bros. Ltd., A. P. Hedouin. Pressed steel door frames: Williams & Williams Ltd. Suspended ceilings: Hy-Rib Ltd. Central heating and hot water installation: J. Jackson & Co. Cold water services, general plumbing and refuse chutes: A. Scull & Sons. Pressed steel storage tanks: Horseley Bridge & Thomas Piggott Ltd. Water supply: Jersey New Waterworks Co. Electric installation and fittings: Metro Vending Co. Electric incinerators ('Barrywald'): Allied Metals Ltd. Electricity supply: Jersey Electrical Co. Gas supply and gas fittings: Jersey Gas Light Co. General plastering: A. C. V. Telling (Southern) Ltd. Flooring, wood block and hardwood strip flooring, rubber, terrazzo flooring, staircase handrails and skirtings: The National Flooring Company Ltd. 'Semtex' flooring: Semtex Limited. Granite paving: Granite Products Ltd. Floor duct covers: Meadow Foundry Co. Stair tread nosings: Ferodo Ltd. Lifts: Marryat & Scott Ltd. Sanitary fittings: A. Scull & Sons, J. W. Huelin Ltd., Woods & Co. Special joinery—doors and

frames: J. Long & Sons. Ironmongery: Dryad Metal Works Ltd. Servery equipment: Fosters Ltd. Rolling shutters: E. Pollard & Co. Perforated metal screens: G. A. Harvey & Co. (London). Paints and distempers: E. Parsons & Sons, Walpamur Co., Sissons Bros. & Co. Telephones: States of Jersey Telephone Dept. Fire extinguishers: Minimax Ltd. Garden: Day's (Nurserymen).

Flats at Lincoln. General contractors: Excavation, foundations, gasfitting, plumbing and plaster: M. J. Gleeson Ltd. Sub-contractors: Reinforced concrete, beams and stairs: Trent Concrete Ltd. Reinforcement to balconies: Twistee Reinforcement Ltd. Bricks, facings: Procter & Lavender Ltd., National Coal Board, Lincoln Brick Co., London Brick Co. Fire-proof construction and wood wool slabs to roof: Marley Tile Co. Special roofings, mineral finished bitumen, asbestos paving tiles: D. Anderson & Son. Glass: Pilkington Bros. Ltd. Grates: Ideal Boilers & Radiators Ltd. Back-to-back grates: Allan Ure & Co. Gas fixtures, drying cabinet fittings: Ranalah Ltd. Electric wiring and fixtures: East Midland Electricity Board. Sanitary fittings: W. Emery & Co. Door furniture: Lockerbie & Wilkinson Ltd. Casements: Hollis Bros. Ltd. Special steel: Haywards Ltd. Shrubs and trees, water supply: Lincoln Corporation Parks Dept. Signs, lettering: A. J. Binns Ltd.

ACKNOWLEDGMENTS

COVER: Marcus Whiffen; FRONTISPIECE: Georgina Masson; FLATS AT ROSEBERY AVENUE, FINSBURY, pages 138 to 149: page 139, John Maltby except top right, Dell and Wainwright; all remaining photographs Wainwright except page 141 bottom, 142 bottom left, 143 bottom, John Maltby; FURNITURE SINCE THE WAR, pages 150 to 166: page 150, Life, September 25, 1950, except centre photograph, Museum of Modern Art, New York; 1, 25, Rex Smith; 2, 3, 11, 17, 67, 81, Galwey, Arphot; 4, 69, 80, Ezra Stoller; 5, Illek and Paul; 6, 9, 46, 85, Knoll

Associates; 7, Maynard Parker; 8, 33, 66, Heal and Son; 12, 84, Museum of Modern Art, New York; 14, 27, 34, 78, Council of Industrial Design; 15, Photo Coverage; 16, 24, 45, 60, 87, Atelje Wahlberg; 18, 38, Fortunati; 19, George Parmiter; 20, Wood; 21, Ico and Luisa Parisi; 22, Architectural Design, June, 1950; 23, A-B. Elsa Gullberg; 26, Atelje Bergne; 30, Decor, No. 51, 1949; 31, Dansk Kunsthåndværk, May, 1949; 35, H. Morris and Co.; 36, 77, Leo Trachtenberg; 39, Werk, March, 1950; 40, 59, Oluf Nissen; 43, Bonytt, May, 1950; 44, Bonytt, January, 1950; 48, Ulrico Hoepli Editore Milano, 1950; 49, Evans; 50, E. Holmen; 51, L'architecture d'aujourd'hui, May, 1950; 53, Struwing; 54, Werk, February, 1950; 55, Gordon Andrews; 57, British Rayon Federation; 58, Peter Moro; 61, Atelje Bellander; 62, Interiors, January, 1949; 63, 65, Peter Pitt; 64, Interiors, November, 1949; 68, Werk, April, 1950; 71, Idaka-O'Suga; 72, Baumeister, June, 1950; 73, Dansk Kunsthåndværk, May, 1950; 74, Walker Art Centre; 75, Midori; 76, Peter Snow; 78, Alfred Lammer; 79, Artur Pfau; 82, Dunns, Bromley; 86, John Gay; 88, Michael Wolgensinger; 89, Interiors, August, 1950; BUILDINGS IN NORTHERN RHODESIA, pages 167 to 174: Mrs. G. A. Jellicoe; LANSBURY NEIGHBOURHOOD, POPLAR, pages 177 to 180: page 179 bottom, A. Cracknell; page 180 top, Fox Photos; CURRENT ARCHITECTURE, pages 181 to 183: 1, Ramsey and Muspratt; 2, 3, Veale and Co.; 4, Johnson and Johnson; 5, 6, Galwey; Arphot; MISCELLANY, pages 185 to 192: TIME, top, Hedrich Blessing; bottom, McCallum, Arphot; INDOOR PLANTS, drawing, Gordon Cullen; HISTORY, Georgina Masson; HIGHWAY CODE, page 188 bottom, de Wolfe, Arphot; page 190, 1st column, Richards, Arphot; 2nd column, Whiffen; 3rd column, top, de Wolfe, Arphot; bottom, Whiffen. MARGINALIA, pages 193 to 202: 2, J. D. Rivier; 3, A. C. Cooper; 5, John Vickers.

"THAT'S OUR NEW FACTORY
DOWN THERE—ALL THE
INTERNAL PARTITIONS,
DOORS, DESKS, LOCKERS &
STORAGE BINS WILL BE
STEEL BY—
Sankey-Sheldon
OF COURSE"

Sankey-Sheldon Limited, 46 Cannon St., London, E.C.4

NICHOLAS BENTLEY

A
d
k;
5,
g;
d;
n,
je
k
o;
0;
4,
re
1,
3,
on
er
y,
r,
2,
k,
6,
2,
el
o-
4;
D,
A.
rr
ad
ad
es
n,
g,
n-
t;
ad
e,
to
an
-